MACHINEGUN

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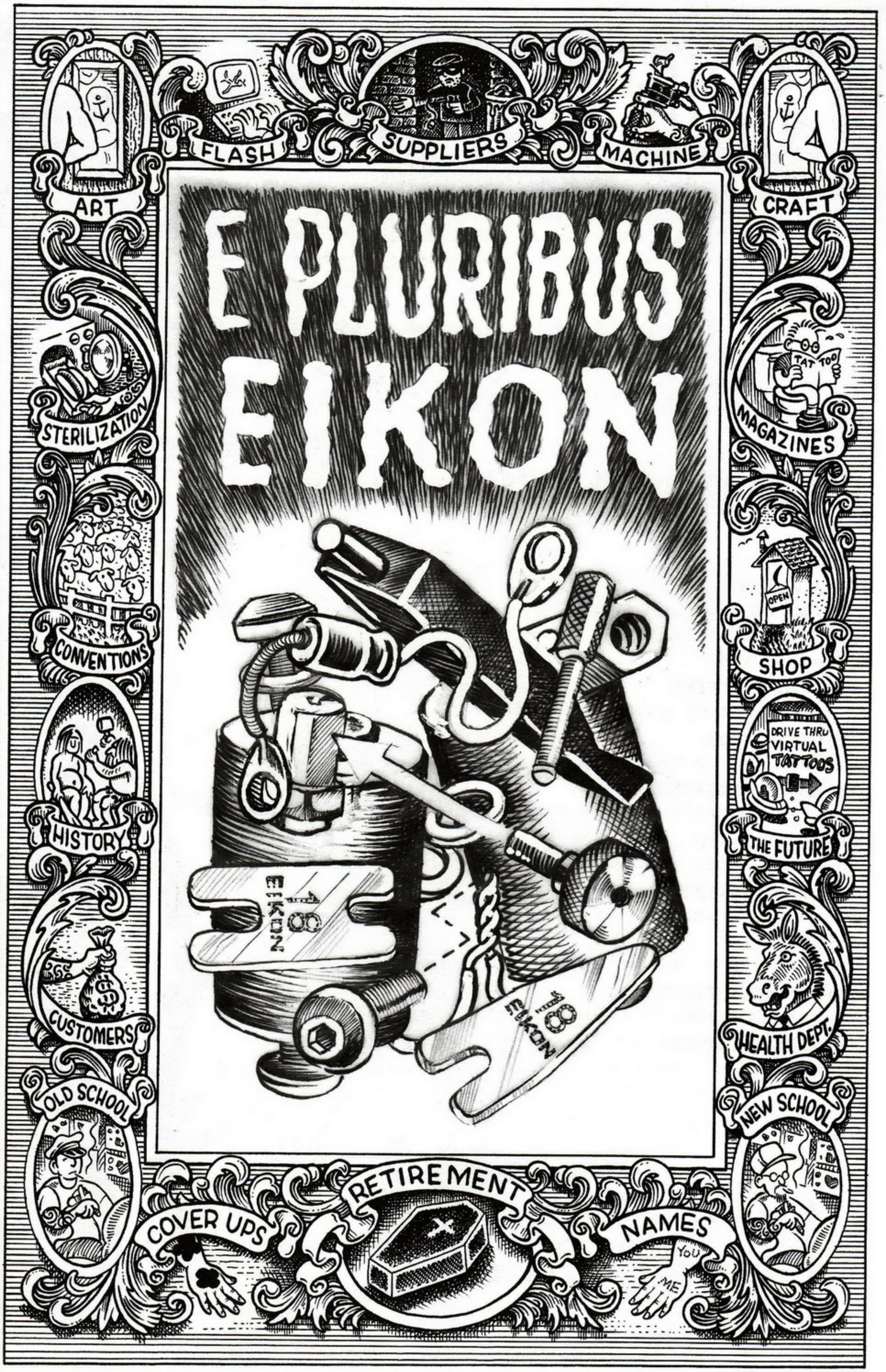
BILL BAKER FINISHING THE TATTOO VERSION OF THE PAINT BY NUMBERS COVER IN THE NIAGARA STREET STUDIO JUNE 15, 2007. TATTOO ON MICHAEL BARKER.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MACHINEGUN Magazine

THE TATTOO MACHINE BIBLE

ISSUE NUMBER 8 • SEPTEMBER 2007

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A good tattoo can make a sentimental person look romantic or a brave person look heroic, but it should always make a stupid person look even more stupider...

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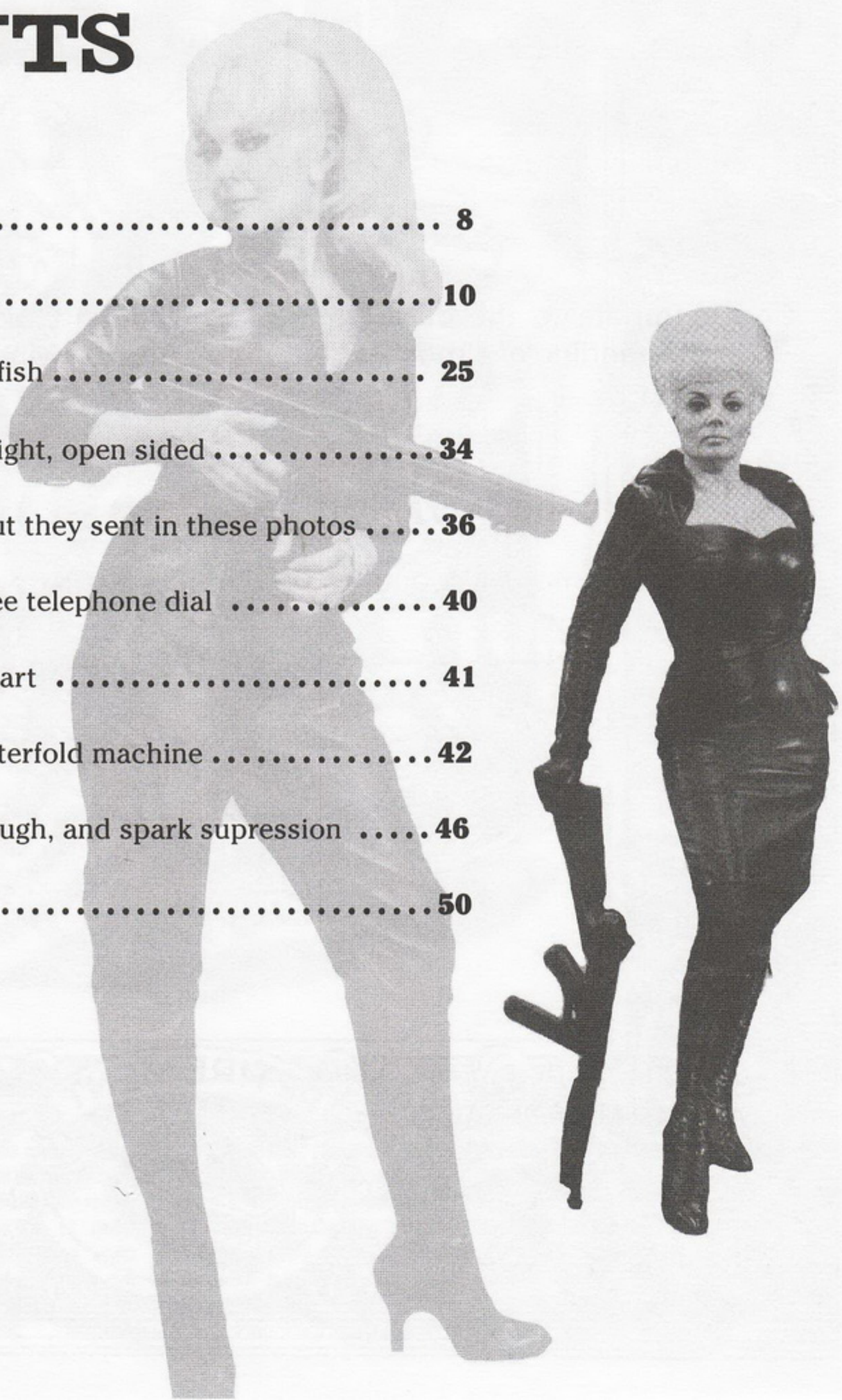

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THE USUAL RUBBISH
The cover is drawn from an actual size section of the stencil used for the tattoo on page 2.
Pull-out posters pg. 25, 26, 27, 28 drawn by Bill Baker - originally printed by Bill Baker and Daniel Innes in 2006.

EDITORIAL

BY BILL BAKER

E PLURIBUS UNUM is a Latin phrase that means *one out of many.* Since 1873 it has been inscribed on one side of every coin minted in the United States. It refers to the creation of one big thing, a nation, out of many small things, the colonies. The motto is equally appropriate to the description and understanding of almost everything. If one or two parts in a system are malfunctioning then another part has to adjust or act differently to compensate so that the bigger thing will still work. Consider a tattoo machine. It's one complete thing made up of many smaller parts. If the machine has one shim too many under the front coil, the armature bar will not make contact squarely and completely with the front coil core. At first you might think the extra shim is a problem, but in fact, it could be the solution to a set-up that doesn't have enough main spring force. The higher front coil would result in less physical contact between the armature bar and the front coil core, so there would be less magnetic sticking and the machine would likely run better. So you see, all the small parts work together and even if there are some wrong parts, there will be some correcting parts. How each of your machines work is really only a part of the entire process of tattooing. It's true that tattooers who care how their machines work are usually the kind of tattooers that are process concerned. To us it all matters; the machine, the needles, the drawing, the application of the tattoo, probably even the bandage. There are also a lot of tattooers who aren't process concerned, and it seems there are more of them all the time. Are they wrong? I don't know. At a glance, it may not look good for tattooing, but you may not be seeing things clearly. What look like problems may be solutions. There are always going to be parts of the trade that aren't functioning for the best but the good parts will compensate, balance it out, and it will work.

E PLURIBUS TATTOOING. **MGM**

EACH MACHINE BEARING THE NAME

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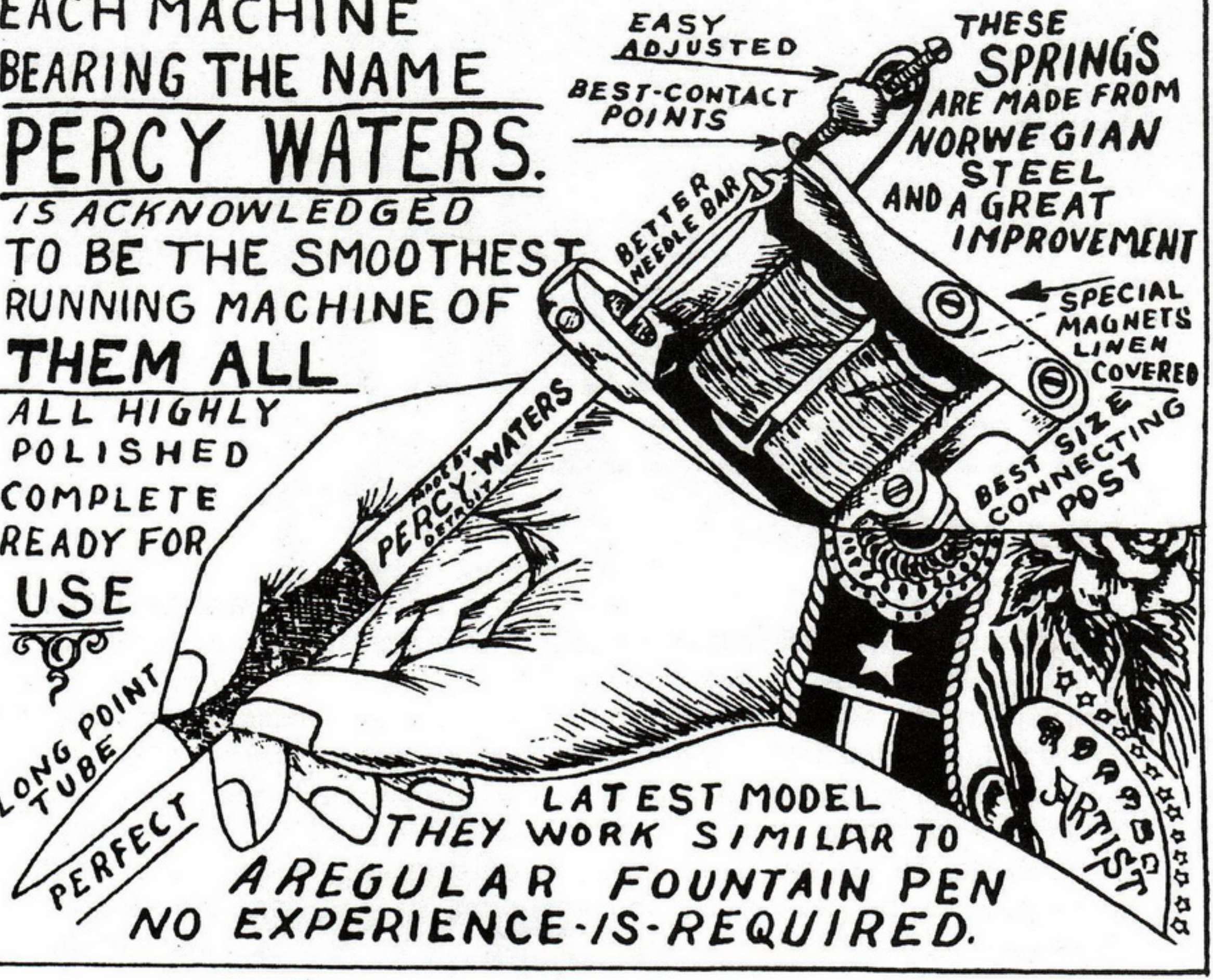

LATEST MODEL
THEY WORK SIMILAR TO
A REGULAR FOUNTAIN PEN
NO EXPERIENCE-IS-REQUIRED.

EACH MACHINE BEARING THE NAME ZEIS IS ACKNOWLEDGED TO BE THE SMOOTHEST RUNNING OF THEM ALL

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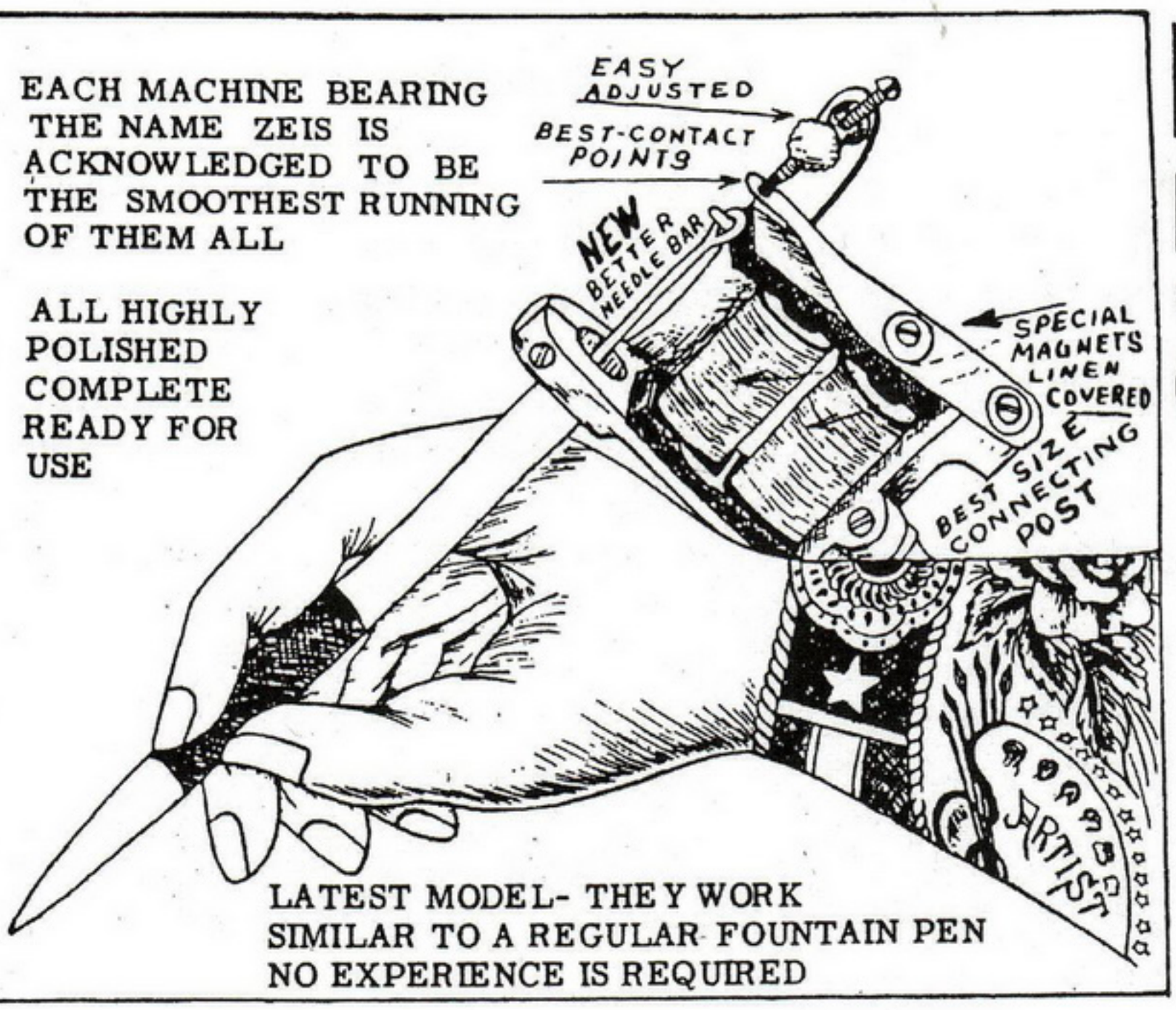

LATEST MODEL- THEY WORK
SIMILAR TO A REGULAR FOUNTAIN PEN
NO EXPERIENCE IS REQUIRED

YOU MUST HAVE GOOD MACHINES

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EACH MACHINE AND PART
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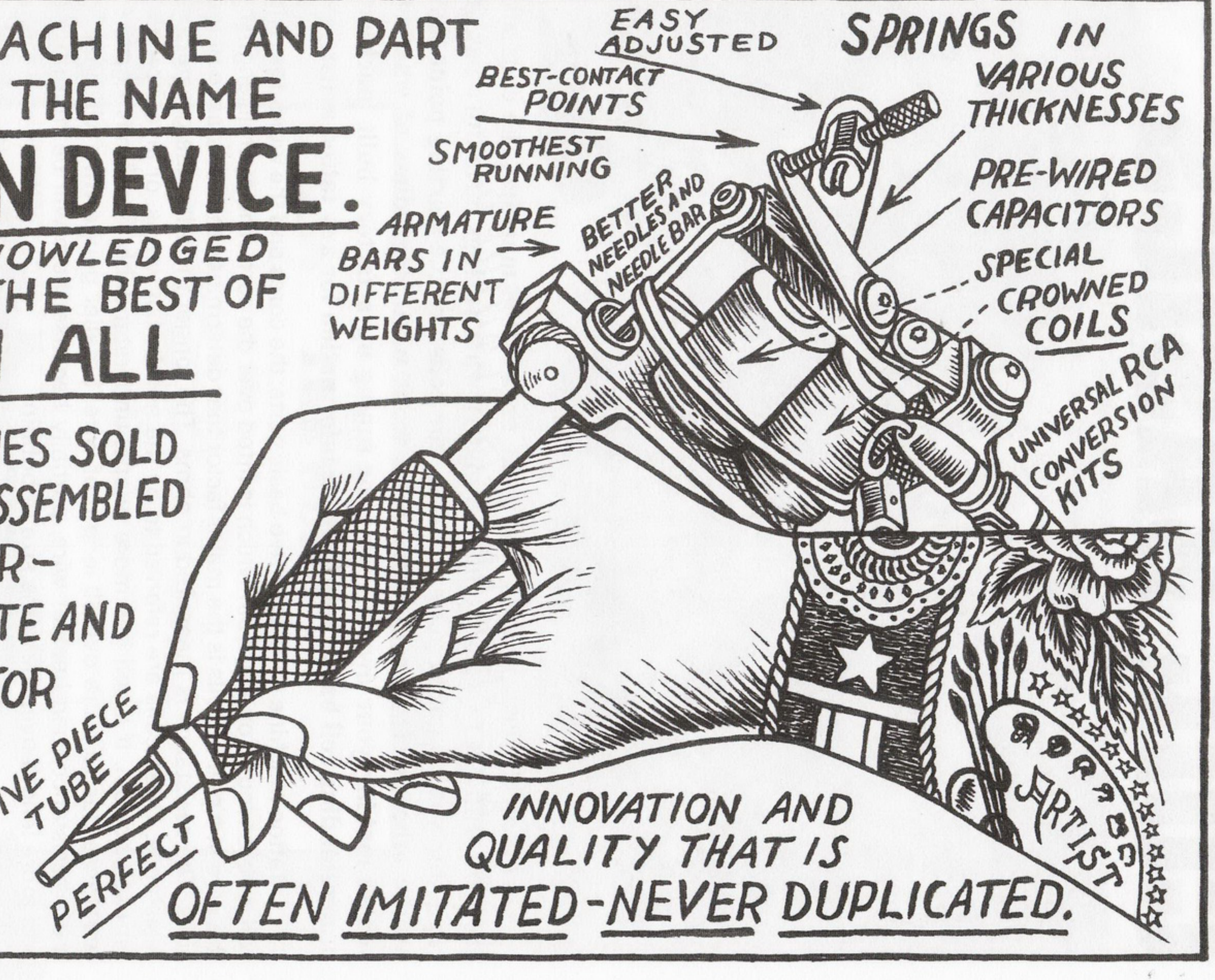
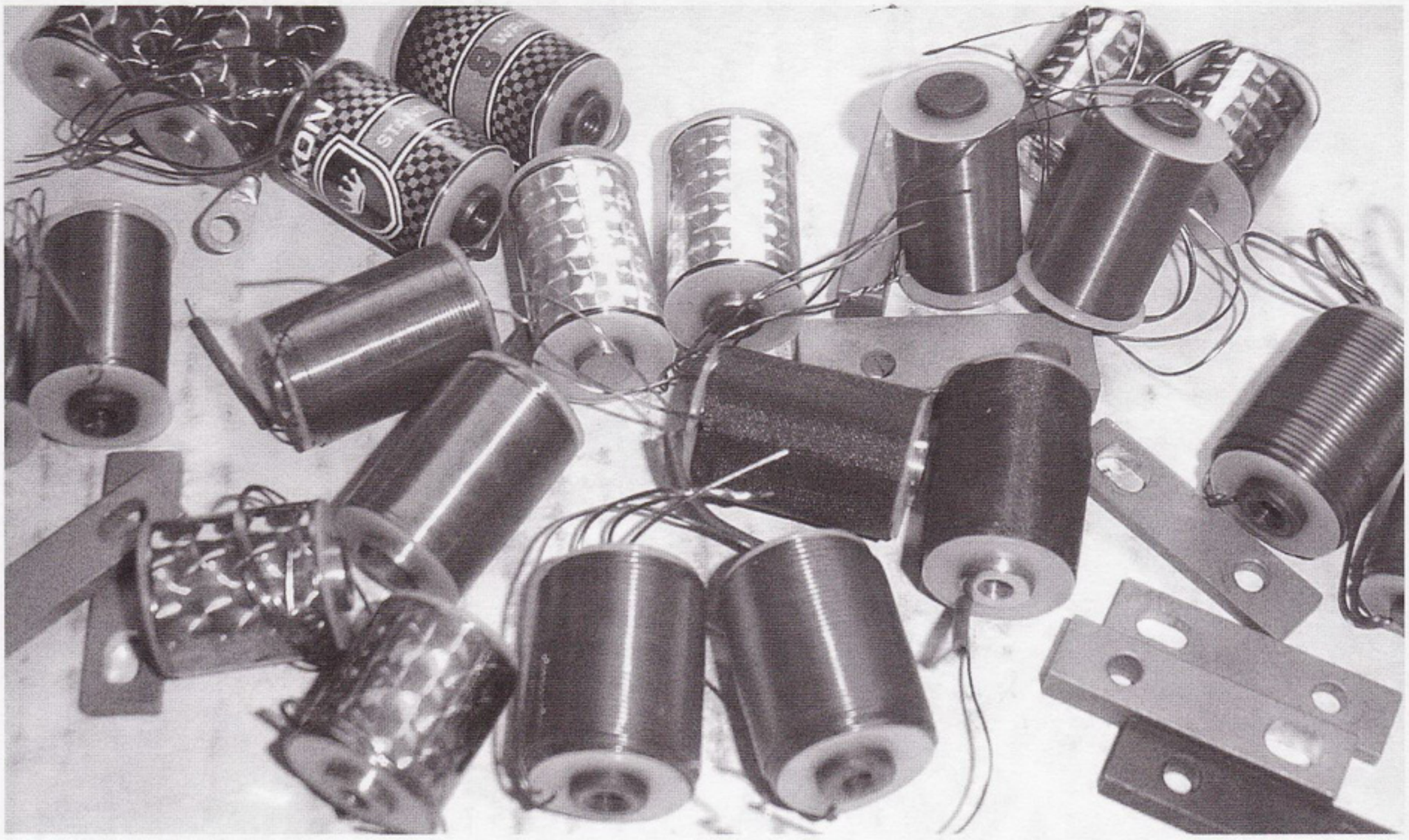


INNOVATION AND
QUALITY THAT IS
OFTEN IMITATED-NEVER DUPLICATED.

COIL BASICS



Of all the components that make up a tattoo machine, the coils are the most difficult to understand. No matter what springs, armature bar or capacitor you've got in your machine, the coils are the starting point that all the other parts of a machine must work with. Regardless of whether you're making your own machine, or tuning up a factory built machine, understanding coil basics is important information for any tattoo artist.

Tattoo machine coils have two basic parts; the cores and the windings. The coil wire is wound on a bobbin which is fitted over the core. The overall length of the wire in a pair of coils is the major factor that determines the resistance of the coils. The resistance is measured in ohms. The longer the wire, the greater the resistance. Often coils are referred to by the number of wraps, or layers of wire on each bobbin. If a coil has more wraps, understandably it will have greater resistance due to more overall length of wire. Smaller gauge wire will present more resistance than heavier wire, partially because there will be more turns and more length over the same size of bobbin.

When there is power going through the windings, the cores become magnetized. When the power is interrupted, the magnets turn off and the magnetism in the cores dissipates, much like heat dissipates from heated metal parts. Magnetism is only present at the surface of a magnetic material. For that reason surface area, not mass or weight, is the valid calculation for estimating the required size of the coil cores and yoke. Although, when the weight is increased the surface area will increase by the same amount.

There is a correlation between the resistance of the windings and the size of the coil cores and yoke, that is specific to the set-up of the machine. In other words, a coil that is best for a certin set-up may not be best if the speed or stroke length of that machine is changed. Because there are so many factors involved, predetermining the optimal coil for any machine is virtually impossible. Trial and error is the easiest method of determining coil efficiency.

You must always remember that simple voltage readings are not useful or accurate when comparing different sets of coils. The wattage of the coils in use must be calculated. If you change one pair of coils for another pair with less resistance, you will often need less *voltage* to attain the same machine speed and function, but due to the change in resistance the *wattage* may be, and likely would be, higher. In some cases if you replace the coils with a pair that is of higher resistance you often need more *voltage*, but the *wattage* will be reduced. Again, this will be specific to the machine set-up, so the coils must be changed out and the wattage must be calculated using Ohm's law E=IR. To calculate wattage you take volts times volts divided by resistance (WATTS = VOLTS X VOLTS / RESISTANCE). (See Issue #7, page 8 of Machinegun Magazine).

Remember, wattage is your true measurement of power, and wattage is heat. If you do not change the coils in a machine, a reduction in voltage will be a reduction in wattage. The complication begins with the change in resistance that comes with changing coils. Choose the pair of coils that have the lowest wattage in each specific set-up.

The yoke in a brass or bronze machine must be big enough. Usually the yoke should be no smaller than one and a half inches long by three eighths of an inch wide by three sixteenths of an inch tall. Larger is fine, but less yoke will generally result in too small of a core area in relation to the resistance of the windings, which will result in higher wattage during use.

Coils with approximately 3.0 ohms of resistance are a good general starting point in most tattoo machine set-ups, and are optimal in many. An 8 wrap coil with an inch and a quarter tall, three-eighths inch diameter core, will have approximately that resistance.

For many tattoo artists the time it takes to change pairs of coils and do the calculations to compare wattage seems like too much work. Whether you carefully find the coils that require the least power for your set-up, or you just accept the coils that are in your machine already, the next and most important step is adjusting and fine tuning your machine to run as well as possible. Coils that are optimal may only be marginally better than a pair of standard 3.0 ohm coils. Using the right combination of armature bar weight, springs and capacitor to obtain the speed and stroke length you want should be the goal of proper machine set-up. The coils are only your starting point. **MGM**

Lyle Tuttle

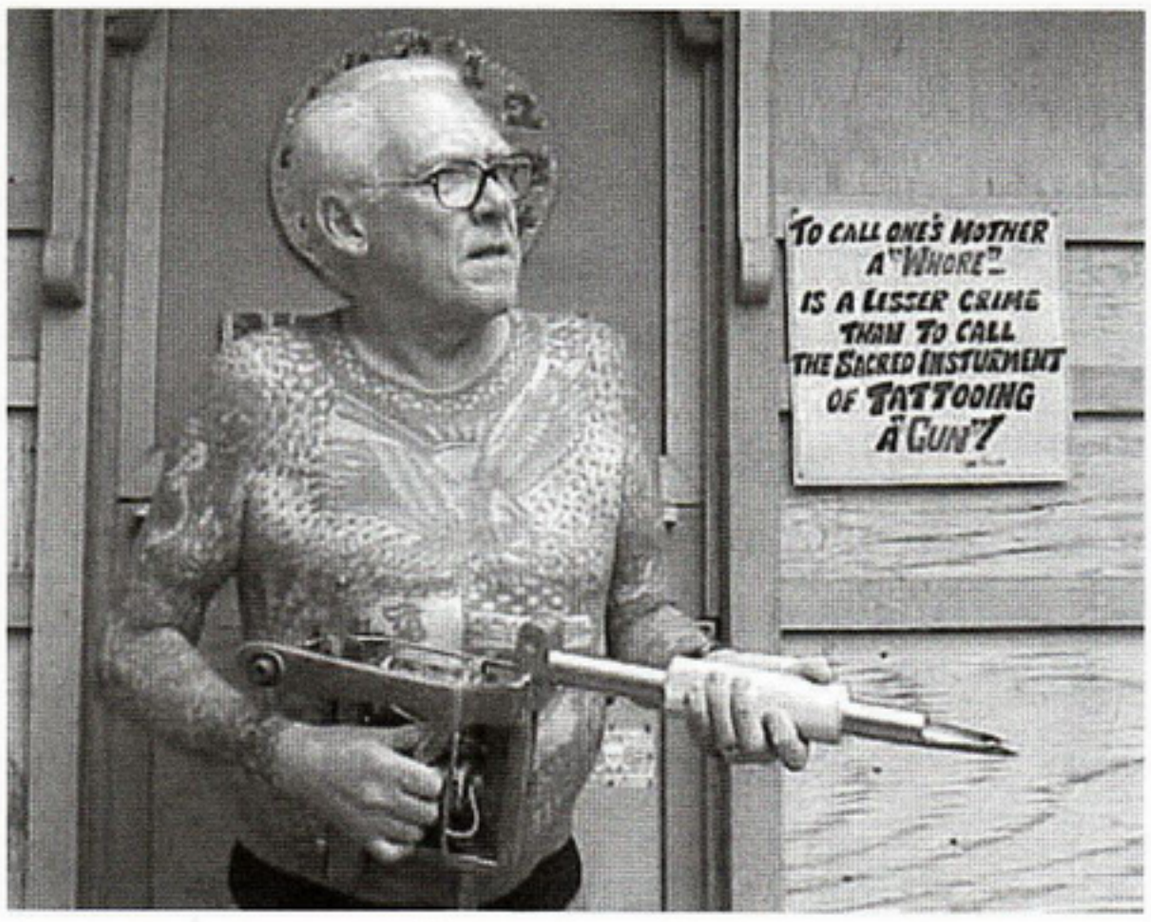
Tattooing since 1949 and building machines since the '60's. He owns the biggest collection of tattoo machines and flash in the world and is widely regarded as the foremost authority on all matters of tattoo history. In the summer of 2006 he talked with Bill Baker about that and more...

Bill- A lot of time in tattooing is spent sitting around shooting the shit with customers or other tattooers – and now I guess that also includes discussion forums and stuff like that on the internet.

Lyle- Tattooing is a talking profession – I mean we're the closest thing to a witch doctor that the customers will ever get.

I think a lot of times stories get expanded upon or even just made up to fill in the gaps, you know... because not much tattoo history was ever written down... and a lot of it is already lost.

...Really, I try to stay pretty close to the goddamn truth – I almost feel like the Lone Ranger in some ways when it comes to trying to keep things in order. One of the reasons I started collecting, and wanted to found the Tattoo Art Museum was because there were so many people that had been in the profession, that were just going to slip through the cracks historically, and god they kept it alive until we could enjoy it today. If you go on eBay and look at tattoo machines – which I do... because its educational in one way, visually, but it sure isn't historically because there's so damn many mistakes made in the descriptions and things... it's a shame. When I used to see something with the description just totally wrong, I'd send them an e-mail – and I'd say I don't want to be a wise-guy, *but*... and god, some time you'd get e-mails back that were almost like *hate* mail... and then sometimes people would appreciate it and say thank-you and change their description. Any mistake you make with the history is like making a mistake in a mathematical problem, or exercise... if you make a mistake anywhere in that progression, the answer is going to be wrong, and it just perpetuates, and keeps going. Forever.



Do you remember the first day that you went to work in a shop as a tattooer?

Yeah, exactly.

When was that?

It was 1949.

What shop was that?

It was actually in an arcade, down on Market Street in San Francisco.

How did it come to be that you ended up in the shop, was that something that you were really *trying* to get involved in? What did you have to go through to get in there that first day?

That could be a book in itself. I got my first tattoo in 1946, and it was on a day trip to San Francisco. I took a bus trip down there one day, just to see the big city – my parents knew where I was – they gave me permission, I guess I must have been a sane and sensible kid if they let me get on the bus at 14 and let me go 120 miles to a big city – I didn't go there to get tattooed or nothin', I just went down

there to see the city. In 1939 I got enthralled with San Francisco. We lived 120 miles north, and we went to the Golden Gate International Exposition, on Treasure Island. Treasure Island was a man-made island half way out on the Bay Bridge. It's still there, it's a naval base now... but it was built especially for that fair. So that's when I seen it - I looked across the bay and I seen all those bright lights and tall buildings and I knew there had to be a lot going on there – and I couldn't wait to get there – I was just enthralled with San Francisco from then on. So when I went down there on the bus in '46, it was just to go see the big city, it wasn't to get tattooed... now, subliminally, tattooing had made an impression on me

I've just never been for popular causes... Tattooing is too trendy today.

'cause guys returning home, during World War Two, a few of them were tattooed, and you know, living in a small community in northern California, if you'd see a tattoo, that meant that guy had been out of the valley, been at least all the way to 'Frisco, and to me they were a sign of adventure, romance, travel and everything else... and I still think about them that way. I wouldn't be interested in tattooing today, I've never been a rebel and a dissenter or anything else, but I've just never been for popular causes, either. Tattooing is too trendy today.

There's no question – tattooing has changed completely over the course of your career, it's not even the same thing.

Well, after tattooing for way over fifty years - don't get me wrong, I still love tattooing... people always ask, 'What do you think about tattooing today?', and I say, if you have loved something and dedicated your whole goddamn adult life to it and it's alive and well and succeeding, how could you feel anything but happiness? Because at one time, back in the 50's and early 60's, tattooing was on such shaky ground in the United States, it was a wonder that it wasn't made illegal through the whole country.

Is it true that tattooing almost died out around 1960? That there was very little tattooing going on?

Well, it depends where you were at, I guess. I always tattooed in large metropolitan centers, and it was alive and well there, and it was alive and well around military bases.

Was there more tattooing going on during the war?

Oh definitely. I mean that was a boon for tattooing.

So then did it kind of drop off after the war?

Well, we were at war from 1941 until... when? I mean... we're still at war. You had World War Two, then that ended in 1946, but they still had to keep troops because they had occupation forces going on in Europe, occupation forces in the Pacific, and the Korean war popped up because they were scared of communism, so that was what the Korean war was about, that's where I got that out of my system... was in Korea, 'cause I was in the service during the time of Korea.

Were you? I've never heard that-

I was in the marines in Korea.

You had already been in the shops? Is that right? Or was it after?

Fortunately, I was a tattoo artist before I went into the service. It was the most ideal thing in the world because when the tattoo shops need an extra tattoo artist is on payday, and I was right there at the military base.

So by then you'd already been tattooing. How many guys would you say were tattooing in the Bay Area when you started in '49?

My god, there was very few- there was probably about ten that was working there during World War Two and by 1949 it had dropped down to about three in San Francisco and probably two over in Oakland.

So how long did you stay in the arcade, where did you go after the first arcade job?

I was there in '49 and '50, then I went into the marines in March 1951. I went through boot camp and then went to Jacksonville North Carolina, for training... and tattooed there with Ace Harlan.

That would have been in '51 and you tattooed when you were on leave.

Yeah, but in a tattoo shop, 'cause I was a professional tattoo artist – so I could get a job in any military town, especially on paydays. In those days tattoo shops generally flourished on the first and fifteenth of the month because of military paydays. The army got paid once a month, and the air force, marines, and navy got paid on the first and fifteenth. So you had two or three days run at 'em 'til they went broke. The first payday was a bigger payday because that was when the army got paid.

How long were you in the marines?

Just one hitch and fortunately they dropped it down to three years so I got discharged in 1954.

Then back to San Francisco?

Well, I got discharged from Treasure Island – which was the place that I'd been in 1939. It had sort of come full circle. That's where they was discharging the marines – while I was there I was over in the city tattooing in the evening.

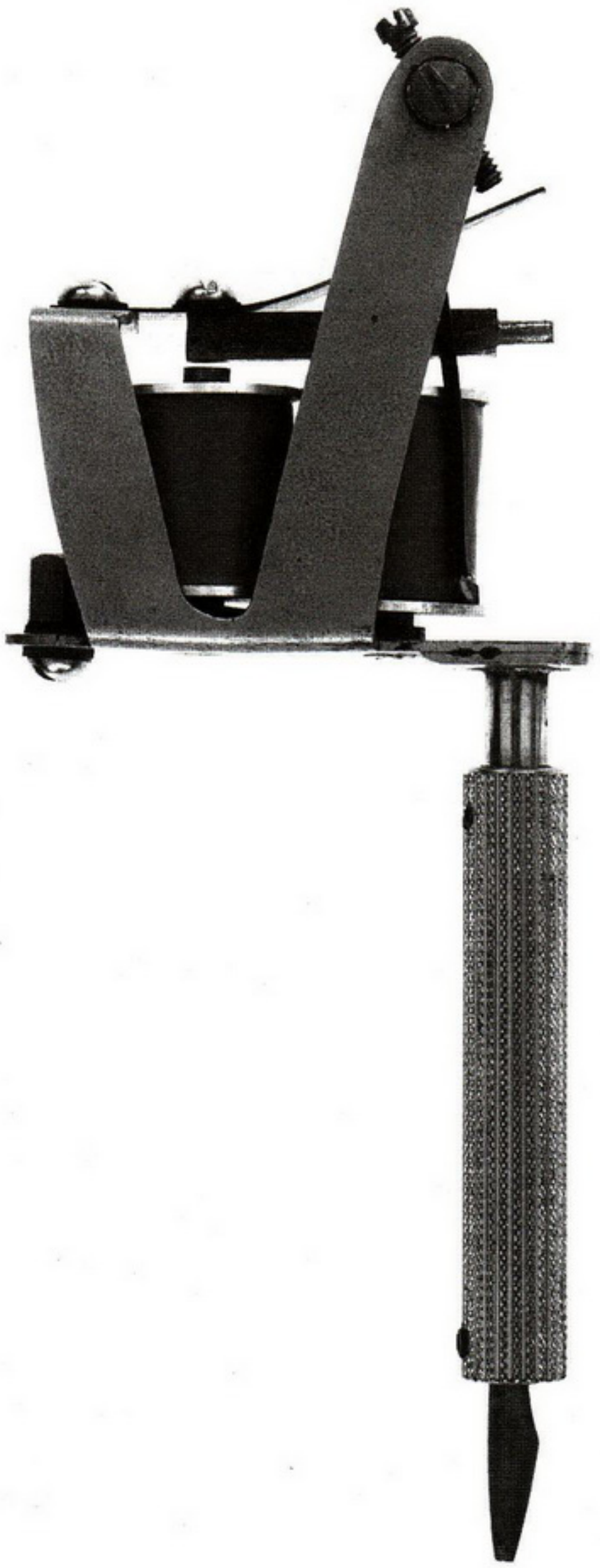
Still in arcades or were they in shops then?

Arcades – but that was a perfect place to be, because a tattoo shop doesn't need a whole bunch of space.

...and the arcade would bring people in for a number of reasons, I'm sure.

There was a shooting gallery in there, they had a mug joint, you know a photography place.

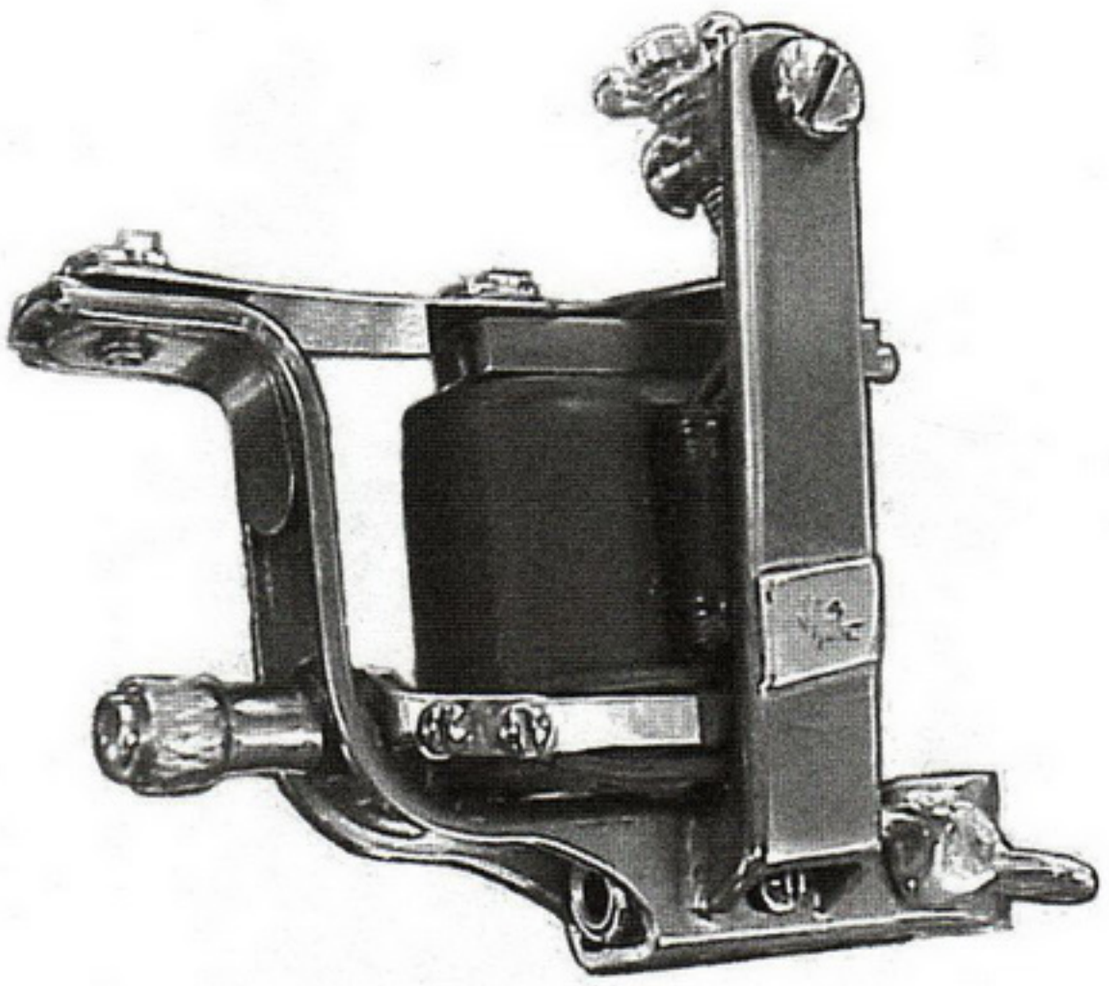
Did the arcades just die off? Or did the tattooers leave the arcades and open in store-fronts?



Well arcades just sort of fell into disfavour for some reason. Because you didn't have immense amounts of servicemen around... and a lot of arcades were connected with locker clubs. Its different now, sailors keep their civilian clothes aboard ship now, but they used to have to report aboard ship, and leave the ship in uniform, and of course they wanted to shed their military uniform, so they would go downtown and there were places, they called them locker clubs and you could go in and rent yourself a locker and you kept your civvies in there, and you'd take your uniform off, put your civvies on, and go out on liberty – it was always funny though, they never bought a pair of shoes so you could always tell them because they had military shoes on. I got discharged in 1954 and I went to work over in Oakland with the guy that actually put my first tattoo on – his name was Ralph Kaufman but he went by Duke. Guys had handles, you know, nicknames - the old-timers used to call them road names – and they all had road names – because most times back before World War Two, and probably even after, the tattooers were the black sheep of the family, they come out of some staid family that had been in Topeka, Kansas for nine hundred years – and all of a sudden one guy pops up and he's out traveling around with carnivals and circuses – and he's tattooed all over – so they adopted road names. There were road cards for itinerant tattooers, Percy Waters sold them and other suppliers sold them. You could get yourself a nice card that had a tattoo design and everything on it with a nice ribbon and you could get yourself a rubber stamp made and stamp your name and address in it or just write it in there – I've got cards with things like, from September 21st to September 28th he'd be in Joe Blow's pool room or something – a lot of tattooers traveled around all the time.

Did you stay at Duke's place until you opened your own shop?

I worked with Duke for about nine months. He had a hero that worked down in Long Beach that he just talked up... 'cause Duke was from St. Louis originally... and he had this guy that he just thought was the greatest thing since cheese dip... *Bert Grimm*. And I went down to Long Beach, my wife and I actually, we went all the way down to San Diego. You know if you got wheels on you, you want to roll – and tattooers got wheels on 'em, 'cause we can make a living anywhere. So, of course, I'd been around and I'd worked with Duke and he was the guy that really introduced multiple colors to the west coast of the United States. You know, there was guys who used red and green – but colors weren't really prevalent then 'cause when you work military pay days you



want to get those tattoos on as fast as possible because you've only got that three or four day window at them. So anyhow, on this trip I went down and I met Felix Lynch and Painless Nell and everybody down in San Diego and then was up in Los Angeles and stopped in Long Beach and talked to Bert and Bert offered me a job. It was in a little tiny tattoo shop that he owned – I think he had about five tattoo shops in town, Bert was a helluva good tattoo artist, but he was a good businessman also, and he bought these other shops up in Long Beach and he had one that was a block away from his shop. The actual physical dimensions inside was five foot by seven foot – in a five foot room you can't stretch your arms out – but for a tattoo shop all you need is two chairs and then a place for maybe one or two people to sit.

How long were you down there, in that shop?

I worked for about three months in that little shop, and then proved myself and then got to go to work in the big shop with Bert, in 1955 or '56. Bert Grimm was one of the fastest, best, and consistent... you know you don't have to be the best tattoo artist, you just have to be good and consistent – if every tattoo you put on is the same and you don't have these ups and downs –

You have to be good with people too, that is a big part of it.

Bert was. Years later, when I wasn't working for him, I'd just stopped in to visit him, he retired about a half a dozen times, and he had a tattoo shop up on an old street that he started tattooing on, on Burnside Street in Portland, and he had this nice shop, and I was standing there talking to him and this raving drunk come roaring through the door, just drunker'n hell, and Bert threw up his hand and he said 'I *know* you're a reasonable man.' That was his opening words to the guy – and the guy stopped... and thought about that, and we all want to be a reasonable man, you know... and Bert said to him 'I'm having a conversation with this man about business, and if you would leave, and let us finish our conversation, and then come back in a few minutes, I'll address your problem.' It stopped the guy right in his tracks, he turned and walked out the door, and of course we never saw him again.

How old would Bert have been at that time?

Oh, Bert was sixty-five or seventy. He tattooed for like thirty-some years in St. Louis and one of the reasons he was so fast... was, St. Louis was inland, of course on the Mississippi River, but you've got sailors – they're not ocean-going sailors, or as they say "deep water sailors" – but they're sailors. There's different types of sailors, but all sailors like tattoos – and Bert said when one of them river boats come in, and they're only in loading for a certain amount of time, you've only got this small window to get in as many as possible, so Bert developed a style that could fill up more space, with less stuff, than anybody I've ever seen in my life.

When did you start getting tattooed by Bert?

I got tattooed by him when I was on that initial trip, out visiting.

How much tattooing did you have on you at that point? A fair amount?

No - I didn't – I had some large pieces on my legs, from the knees down, arms were pretty well bespeckled. I got an outline of an eagle on my chest in '49, I think it was, by Pop Eddy. He was an old guy, and most of them old-timers used AC current – that machine runs hard – short stroke, and I swore I'd never get touched on the chest again – and for seven years I wore that outline, until Duke was doing some tattooing on me and he finished it. So I went down to Long Beach and I had a finished eagle on my chest, and my arms were fairly well covered and I had a couple of girls on the sides of my legs – and I had a 'Here's mine... where's yours?' cherry on one side, it's been covered up now, and that was about all the tattooing I had on me...

So then when you were working at Bert's you got a bunch more work started – most of your body?

He put a back piece on me and he finished my whole upper torso -

and that crest with "Chicken Today – Feathers Tomorrow"... was that your invention – did you come up with that design?

Yeah.

I'd say you've had more chicken than feathers –

I think so... but actually I've changed that motto – or life changed it for me... my motto now is, success is the trip – not the destination.

For people who don't know – on that crest that you have, there's a chicken and a feather and its written in Latin.

It's "Gallina Hodia – Plumae Cras" is how they say it in Latin – but it looks official as hell –

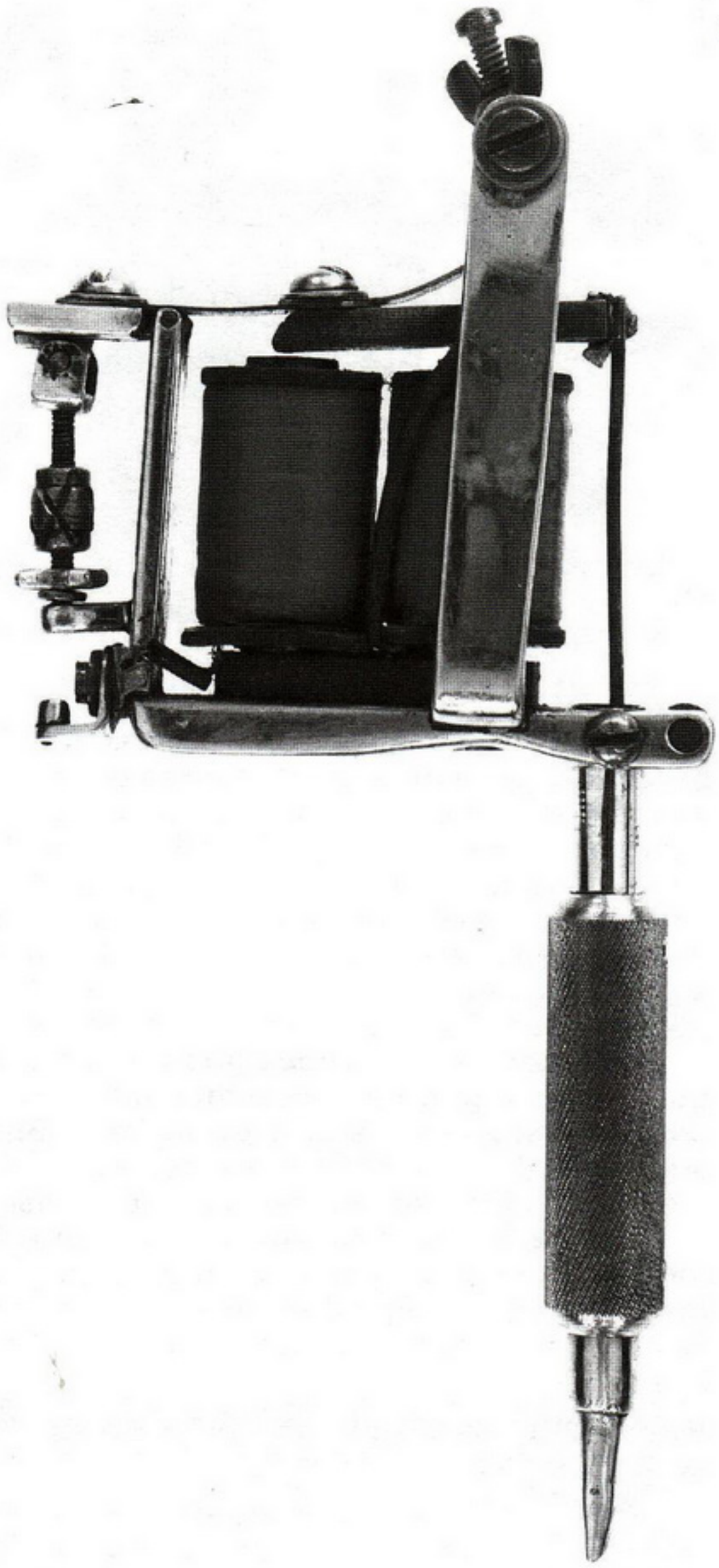
How long did you stay at Bert's – in Long Beach?

Let's see... this was back in the 50's, like '55, '56, '57. The Pike at Long Beach they called, out there in the stream – or in the bay – they called that Battleship Row – so that's where the American Pacific Fleet used to be – now this was before I was down there – so when I was down there in the 50's they was starting to put battleships and things in mothballs – they'd dispersed the sailors to San Diego and places – so business wasn't really like it should be. The place was dying on the vine - you know the Pike is gone now, completely – it wasn't in its death-throws 'cause it went for another twenty-some years, but it wound up that I just wasn't satisfied. I was married and had a couple of kids and I wasn't making the money down in Long Beach, and there was a guy came through from Chicago – that most of the tattoo shops in Chicago was owned by... and he was sort of on a recruiting mission. So anyhow it wound up that I told Bert about it and Bert knew that I wasn't making the money that I should and everything else and he said, 'Well, just don't go back to Chicago' because it was sort of controlled, there was a sort of tight leash on the arcades in Chicago. So about a week or so later I came into work, and he introduced me to this fella named Joe Broadbent – an old-time friend of his – and Joe was down from Alaska and he was just opening an arcade up there – and he says he was thinking about putting a tattoo shop in it if I wanted to go up and work. So that was when I left Long Beach and went to Alaska – with Bert's blessing. So I went up there and he gave me some of the best advice in the world, he says, 'When you go to Alaska – just triple your prices'. So down in the States names were a dollar. You could get a heart with a ribbon for five bucks – so it went from three dollars for a name, to fifteen dollars for a heart with a name in it... and it's hard to do, to raise prices that way. You can get just about anything you ask for, tattoo-wise, price-wise if you've got balls enough to ask for it.

How long did you stay in Alaska?

I was in and out of Alaska from '57 'til '63.

Did your family live there with you?



I had them up there one time, yes. But a lot of times I would just go up and tattoo a couple of months, then go home.

So then you came back to San Francisco, and you opened a shop, I'm assuming, and still made occasional trips up to Alaska.

Yes – because it was great... the prices was like three times higher than they were in the States – and you could go up there for the first, and get a good five day run at 'em, and you could come back with a pocket full of change.

After '63 you stayed in San Francisco?

Well, maybe we're getting the cart before the horse... when I was over at Treasure Island waiting to get discharged from the service, I

was over in San Francisco tattooing – and I got sort of like... disoriented or something, career-wise because I'm sitting there and I've been off for three years in the service, been to Korea, saw a little combat, saw a lot of the world and I flopped down in about the same chair that I was working in when I left to go in the marines – there was people running in that arcade that was mouthing the same bullshit that they was mouthing when I left... and I just couldn't get a grasp on it – they were stagnated... they just been treading water in that cesspool all the time I was gone.

And I'm sure that wasn't what you wanted for your future...

Well, it just seemed like... I mean I understand it now, we're *all* stagnated, but I just had a little different view in life... I had a new future ahead of me. I was getting discharged from the marines, I was still single, I never really sort of left home, I always stayed in perfect accord with my parents and everything else, I'm the only kid, and I'd come up and visit them, so I landed a job with one of my dad's friends operating a log-loading machine, I was raised in the construction business so I was raised on heavy equipment; bulldozers, and cranes and things – so I went to work for one of my dad's friends up in the woods – taking logs off of logging trucks – because I didn't want to get stagnated, like these people down in the city. I only did that for a few months, 'til I figured out that these people that was working in the woods was stagnated too. So, I said to hell with it, and I loved tattooing, so I went back to tattooing. The first place that I went was Oakland, and I was going to open a shop up, down by the Greyhound bus station, 'cause tattoo shops should be in transit areas as far as I'm concerned. I couldn't find a location and I stopped in and I talked to Duke. Him and I had stayed acquaintances 'cause he was sort of my mentor, he put my first tattoo on and he said 'Well hell, I'll give you a chair in here, why don't you come and work with me'. So Bingo, I did, and that saved me from setting the shop up and the whole thing.

You must have had all the equipment you needed at that point... how'd you go about getting that? Was it a complex thing?

Oh, that was a total complex thing. 1946 I get my first tattoo, and from then on I just had tattoo static in my mind, really. Tattooing just totally enthralled me. I wanted to get some equipment. It was impossible. It was a brick wall. That's what I always called it, when you went into a tattoo shop and you wanted to be a tattoo artist and you mentioned that, you hit a brick wall. They changed from nice, congenial people putting tattoos on, to sort of... well – you're in essence, standing there flat–footed, looking them in the eye – telling them that you want to furnish them competition. That's what it all boiled down to – and that's why they was so tight–mouthed about it, because a new tattoo artist just meant more competition, and there wasn't that much tattooing going on. It took me a couple of years of trying to get some equipment. I still lived at home, up north, but I was down in San Francisco at every occasion that I could, and I'd sweep out the tattoo shop and run errands for them and things and even though I had made friends with a lot of these guys – how it happened that I got the equipment, was really a left-handed way. So anyhow, my dad was building a school over here about thirty miles away from where I live, and there was a fella working who was a glazier, he put in windows. Schools have a lot of windows, so it was a big contract – the guy was a sub-contractor on this school that my dad was building. His name was Eddy – and I said to him 'There's a tattoo artist in San Francisco with the name of Eddy.' And this guy says 'That's my brother'. The whole ball game changed. I got my equipment. You had to have an in, in those days.

There was an element of luck involved, but it was more than that, it seems like the universe had to align before you were allowed in...

That was it, but you appreciated it. You really appreciated that machine. That first machine I got, that was my prize possession.

You can get just about anything you ask for, tattoo-wise, price-wise if you've got balls enough to ask for it.

It was one of those Pop Eddy – C.J. Eddy machines?

Well actually it was a Percy Waters machine that had been modified, and I've still got it, of course. I learned a very valuable lesson with that machine that I'll never forget... I learned the difference between AC current and DC current – because all them old-timers liked to work with AC current, and Pop Eddy was one of them. If you're going to run an AC current through a twin coil tattoo machine, you have to short that machine out to operate it. If that machine is wired for AC current and you apply

DC current to it, all it does, is the armature bar is attracted to the top of the coils, but they stick and stay there. I had that machine apart nine-hundred times – I didn't count them... but I worked for a few days. I had that son-of-a-bitch apart, I'd put it back together again... finally I sorted that business out and it was as easy as taking your upper assembly with your binding post and contact screw, take it apart and bring your little solder lug and just short it out to the frame to get it to run on AC current, because the machine on AC current it's the signal, the alternation of that current, sixty cycles a second that makes the machine operate. If you don't short it out then you have that current break with the contact point and then the alternation of the sixty cycles, and the machine goes nuts. It just doesn't run worth a damn, and very erratic.

So you got a machine that was set up to run on AC and you wanted to run it on DC.

Yes. DC.

Off a battery or a transformer?

No, it was off batteries.

So you managed to get the machine, and I imagine a tube or something, and some needles and a little bit of color?

Yep – and then I went down there and the brick wall just disappeared and Pop Eddy was just my best friend from then on... I used to go and visit him and go down to his workshop. He lived out on 35th Avenue in San Francisco and I went up there and visited him and he showed me how to solder needles and he just took me under his wing, like a son, but there was none of that until his brother went and opened the road for me. It was funny. There used to be an old guy that tattooed down on Market Street, his name was Chris Nelson and he tattooed in the front of a barbershop. When you're down on the second front, or the swim, where there's all these arcades and everything else – space is very expensive – and so if a guy had a barber shop with four chairs, he'd take the front of the place and put a shoe-shine stand in there, and if there's enough room they'd put a hot-dog stand in or something – 'cause you want the space that you're paying dearly for, to be productive. Well, anyhow Chris Nelson's, when you went into Herb's barbershop, you went into the store-front and there was a little partition down through there and that was the tattoo shop behind that partition, but the tattoo shop had a window to the outside sidewalk. If you asked Chris Nelson a question about tattooing, even if you just asked him an innocent question of some kind, everybody is curious, you know, he'd say, 'You see that brown paper bag over there? If you ask me one more question I'm going to put that sack over your head'. He wouldn't even let you watch him tattoo, after

that. Once you'd asked him two questions... he knew that you were after information, and the sack went over your head. Sure enough, I'd walk past that shop and there'd be some fool sitting in there getting tattooed and he's got that damn sack over his head. So that's how tattooing was. And that had some charm to it.

So by the early 60's you had gotten a shop open, and you'd stopped going up to Alaska. What was going on with your shop? Were you working alone?

No, I had people work with me off and on – I opened up that shop on Seventh Street, the one I was in for twenty-nine and a half years on July first, 1960.

Shop name?

Lyle Tuttle Tattooing – Anybody who would call their tattoo shop anything other than their own name... what are they ashamed of their own name?

That shop was there for a long time – and you ended up owning that building?

At one time, yes.

How many different guys you figure worked in and out of that shop?

Oh god –

Just ballpark guess –

Probably twenty.

What was the most number of guys you had working in that shop at any one given time?

I think seven.

When would that have been?

That was in the eighties.

It was busy then...

Yeah, well you know, that shop was *always* a good shop – only the early sixties was slower. In 1960 tattooing was outlawed in New York City, and that was the first time that tattooing

had ever gotten any mainstream publicity – even though it was bad... I mean it was bad publicity – don't get me wrong, but still, they was talkin' about it. P.T. Barnum said it doesn't make any difference what they're saying as long as they're talking. And what happened was, this was the first time that any of the news services handled tattooing... then, I guess the news editors at the local papers, the bigger metropolitan papers like in San Francisco, Seattle, they sent their writers out to probably dig up some more dirt on tattooing, and it wound up that if they ran across a media friendly tattoo artist, of which they had one in San Francisco... writers are like computers, you gotta program them – so if they wound up liking you, as a person, they did good stories. So they were outlawing tattooing in New York and there could have been a domino effect that went across the United States, they outlawed it in Indiana, and Florida, and places like that, South Carolina, Oklahoma –

All around the same time?

I won't say *all* around the same time, but Florida was – and it was all the same problem. When Doc Forbes died I bought his complete work effects – and he had tattooed from the 1920's on, and then all of a sudden here in his scrapbook he started getting articles, that was around 1960, so I'm sure it happened that way with everybody. So tattooing is so powerful – that it turned a negative into a positive.

What effect do you think that Richard Speck thing had on the tattoo shops in America? If it had any effect...

In 1966 there was a guy in Chicago that murdered eight nurses – Richard Speck – and tattooed on his arm he had 'Born to Raise Hell' with a devil – and there was idiots that come in asking for that...

They had photos or drawings of his tattoos in some newspapers – sort of as a way of helping the public to find this guy –

I think they caught him right off the bat... I know they did have photographs of his tattoo, and it didn't take much imagination to duplicate a little devil with 'Born to Raise Hell'...

I guess it got the general public to even consider tattooing, and when they did consider it on their own terms, they would maybe think – well, I'd like to get a tattoo – but maybe not a little devil – but maybe – so the shops got busier –

So that was another negative that was turned into a positive... Once people started seeing it in print all the time, now it was viable – it was real and then all of a sudden the Haight – Ashbury happened, the Summer of Love and the hippy movement. At the top of the stairs in the tattoo shop, there was a little bit of a hallway there, and I always used to joke that I was going to have to get a pack-check girl instead of a coat-check, 'cause them hippies were all carrying backpacks and almost any time you'd go out there and there'd be twenty of them out in that hall. After that, Women's Liberation showed up and women started getting tattooed more and because of that, the press just opened up. So in late '69 was when all hell broke loose with all the good publicity.

Around then you were in Rolling Stone and Life Magazine...

Yeah.. Life magazine came out weekly – so I think it was March 12, 1971 –

But Rolling Stone in the late 60's, that's something...

I think it was in '70 or '71 – but still, it was top drawer.

Didn't you predict that tattoos would be more popular than hot pants?

In the National Enquirer – yeah, and hot pants was in about two days –

Yeah, but boy what a couple of days –

I appeared on stage with hot pants on – back in the early 70's. That's when my body-shirt was out.

That's when your bodysuit tattoo shirt was printed?

The same time, the early 70's

Did you make many of them?

Well, there was probably a quarter of a million of 'em made all together

Geez – that's more than I thought... Did all that publicity have a direct influence on how busy you were?

It was like the difference between day and night –

Did you put your prices up?

Yeah...

Well, of course... You should.

A six dollar and fifty cent tattoo – went to thirty five dollars –

That would have been a very significant change in your standard of living...

Very true, and status in the community –

What about other tattooers? Did you hear from them?

Well, I don't think I heard from anybody directly. I wound up having a lot of dissenters over it – but you know you can't help that.

Being really busy and making money, is that when you opened that shop in Hollywood?

Yeah, I opened that in 1970 – well I started thinking about that in 1970. I started looking around in Hollywood and the location I ended up with was across from the Continental Hyatt House – that's the hotel where most of the rock bands stayed.

On Sunset Strip

It wasn't in the strip part where all the night clubs were, this was a more sparsely populated area, towards Hollywood itself, because the strip is right next to Beverly Hills – so that shop was between Hollywood proper and Sunset Strip – I only had that shop from '71 to '76 I think it was. Now it's gone, but it operated for like thirty years I guess –

Did you work back and forth between the Sunset Strip shop and the San Francisco shop?

I was back and forth between those shops but you know a lot of shop owners will have like six people standing in there, doin' nothing and they'll hog all the jobs... and I never was that way because people have to make a living, that works for you – so if the shop was properly manned for the hours that it was open, and there was no hardships for anybody, I took off and went to England, or Europe, or the South Pacific.

Those two shops were similar to how shops are now... If you look at that Sunset Strip shop and the Seventh Street shop in San Francisco in that time frame, let's say, early or mid-seventies... they were really a lot like what a tattoo shop is today.

Oh I would say so, sure. They wasn't in arcades or anything.

There was a big transition there from the arcades to the shops – but then it was right up to speed, and that's pretty much what shops have remained like.

When I come back from Alaska, that was the last arcade I worked in.

And the change wasn't just with you, I'm sure that was the way it was in tattooing in America-

Probably was... in fact there was people that had established store-front shops before I did.

That would put us sort of around the time of the first tattoo convention, in Houston is that right? 1976... Did that convention really change anything in the business?

Yeah... I mean it wasn't the first time that there had ever been a tattoo get-together, most tattoo artists were correspondents back in those days... and you always corresponded with somebody that was on the other side of the ocean or a long ways away from you, you didn't with tattoo artists within a certain proximity because they were competition. In Sandusky, Ohio there was a guy tattooing up there by the name of Al Shiefley. Al put on a get-together, and a guy by the name of Les Skuse came over from Bristol, England, then Milton Zeis he was in Rockford, Illinois, about 300 miles from Sandusky, Ohio, so Milton Zeis was there, and Paul Rogers and Huck Spaulding went up to it, they was tattooing in Jacksonville, North Carolina, there was probably twenty guys showed up.

That was well before the Houston Convention –

Oh yeah – the one that was in Houston was

not the first one.

After Houston though, conventions became a sort of regular organized thing, there was one the next year in Reno – do you think the Reno Convention had a bigger effect on things than the Houston Convention?

It was a helluva lot bigger show – but it happened before the conventions – from 1970 on there was a transition.

A lot of people say that was the beginning of what tattooing is now – and I'm not trying to say it's wrong now, but the kind of person who tattoos now... who's interested in becoming a tattooer now... has to be a different kind of person than it was then...

Yeah, tattooers before then didn't think about art. That's why there's so much of the old flash that's unsigned... 'cause those guys, they drew that flash for sales aids – they didn't think about art. In Samoa the tattoo artist is called a Tatao Tufuga. A tatoa is the tattoo and tufuga meaning he is a builder – so they think about the tattoo artist as a builder.

When was the first time you went to Samoa?

1972, or '73.

By the mid to late seventies, the conventions had started, you had sold the Hollywood shop, and you had the one shop in San Francisco.

The San Francisco shop, next to the bus station, that was the mothershop. Always. That was from about 1960 to 1989 – that was the center of my earth –

Were you tattooing a fair amount still then?

Well, sometimes I didn't have the personnel – and there was a couple of times I got pissed off and fired everybody – cleaned house, and worked by myself... I had a certain dollar figure I needed, in my mind, to support my bad habits and so when I went in there that day, and I wanted to make that amount of money, I made that amount, and left.

Were you tattooing pretty regularly right up until the shop closed in '89?

...No... not really. You know the thing is, in my life I get into projects and I work on them Kamikaze style – around the clock until I can't look at them, for maybe a year or so... and then I'll go back and work on them. I worked some real long days on paydays and everything – and after a while I didn't want to get in that chair and sit there and live in a world that I was creating – because it's worse than living on a small island. When people come to me with their portfolio or something and want me to look at it, and give them advice on their career... my stock answer is, after looking at about two or three pages of their thing, I'd say "Buy real estate", and I'm not knocking their work, I'd tell that to anybody.

No, but really, I think a lot of guys who start tattooing don't think about how long a career is supposed to be, and they're pretty-well burnt out by the time they're thirty. What do these guys do from thirty to sixty-five? Do they just get into something else? I don't know if you know... but you've seen a lot more than I have...

I don't know... it's lasted with me a lot longer...

Well you've got it going, and the old-timers that you knew did too, because you knew them at the tail end of their careers and they were still tattooing.

A great one was Bert Grimm – he said 'For years I sat there and tattooed, and I thought about feeding pigs and chickens'... meaning retirement and a farm... but when that happened, he said, 'I was out there feeding them pigs and chickens, and the only thing I could think about was tattooing'. So... we're never satisfied. For a person that knows how to apply tattoos, there is nothing in tattooing that he can do to make more money than

sitting on his dead ass drawing silly pictures on people – the thing is, you can make a good living at tattooing, but you never get what you would call rich. Because you're dispensing a service... and there's only so many hours in a day...

You're trading time for money.

Exactly, to get rich you've got to make deals where you make big chunks of money, in tattooing you can make a great, comfortable living – but I flipped some of mine, and I put it into real estate.

That's reasonable... It's good advice –

Hindsight is twenty – twenty,

Well, you haven't done so badly...

No, I know where my next meal is coming from, but I'll tell you one thing... fame and fortune do not necessarily walk hand in hand.

That is true. Was 'Tattoo 70' the first publication that you ever did?

Yes, 'Tattoo 70'.

How many did you have printed?

There was quite a few of them... I think fifteen hundred.

That is a lot, especially for that time... There was enough for almost everybody in the trade...

Yeah. Well there's 32 tattoo artists represented in that thing – and you don't know what kind of a goddamn hassle that I had of just getting those photographs and little bios, the diversity of it... like Johnny Gurka, in Singapore. Terry Wrigley, in Glasgow, he didn't tattoo with a footswitch, he just plugged that tattoo machine in and went... and he free-handed everything –

No stencils, I heard.

He'd just grab your arm and go... him and Ronnie Ackers were the two guys that could do that. There might be others – but I only know of those two.

Was 'Tattoo 70' well received?

Yeah.

I don't think there were very many books about tattooing available at that time...

What would happen was anything that was published was in libraries... people would check them out, and wouldn't bring them back. 'Tattoo 70' was a thirty-two page sales brochure that represented my craft... or art form.

How did you choose who would be in it? Were they just guys you knew?

Guys I could *get*. It states right in the front about that, that I'm not saying they're the best tattoo artists in the world or anything... It was a sampling of tattoo artists from around the world. It was hard to get the photographs and things and this was back in the days of snail-mail. Younger people today have no idea how things used to be, how involved it was to get anything done.

After 'Tattoo 70', which I assume was put out in 1970...

Well it probably come out in '71.

Ok, but then, you didn't print anything again until the Tattoo Historians, is that right? And that was about a decade later

Probably. The basic bottom line of doing anything, in school you get A's and B's... in real life you make money. There hadn't been anything published about tattooing in a long time. So some of it was that I wasn't going to go out and take the money out of my pocket to make this sales brochure to elevate tattooing... I'm not a philanthropist.... 'course I thought about making some money on it, but you know... I had that thing around for years, cases of those books 'cause they didn't sell that well – but 1970 was before the conventions...

Am I right saying that there were eleven issues of the Historian?

There was eleven issues.

The first one would have been around 1980?

'82 – in the first issue we featured Betty Broadbent – also if you were featured in the Tattoo Historian, you automatically went into the Tattoo Hall of Fame. In Tattoo 70 it says the Tattoo Art Museum and the Tattoo Hall of Fame – it's mentioned in there – in 1970 when the book came out, they would have laughed me off the fuckin' block if I would have come up with the Tattoo Hall of Fame.

At that time...

They *would* have... but I reserved it – so ten years went by, and if you were featured in the Tattoo Historian, you automatically went into the Hall of Fame.

Did you put an issue out once a year? Is that about right?

No, it was a sub-sequential... meaning whenever it came out. So Betty Broadbent was put in the Tattoo Hall of Fame in '82, then Bert Grimm and Paul Rogers and Les Skuse was put in in '83... so I was really hard-chargin', there was four of them in the first year or so...

And you stopped it at eleven – had you just had enough of it?

It ceased being fun – and this was before personal computers – and you had to deal with type–setters, you had to take the text down and get some asshole to print it out – then you run back up and cut it apart and put it into the publication – wax it in. The old paste up. I pasted all eleven of them up.

Even getting one issue out would have been a success, but to do eleven is remarkable.

It was fun stuff... I loved that paste-up – for some reason. And I've always been a collector of information, a collector period. If I have two of anything, it's a collection and I'm off and running...

Even as a kid?

Yeah – I've always been a sort of a pack-rat –

Your tattoo machine collection probably started innocently enough...

That was it... I mean it was out there, it intrigued me... I didn't start collecting that stuff to make a museum. I used to have it stored in suitcases and if somebody was around and I wanted to show them something I'd have to rack my brain about which goddamn suitcase it was in – and I'd have to open it up, and dig through it... so Davey Jones who worked for me at that time says 'You got those spare rooms up in front here at the shop why don't you display it?'... Voila, the birth of the Tattoo Art Museum –

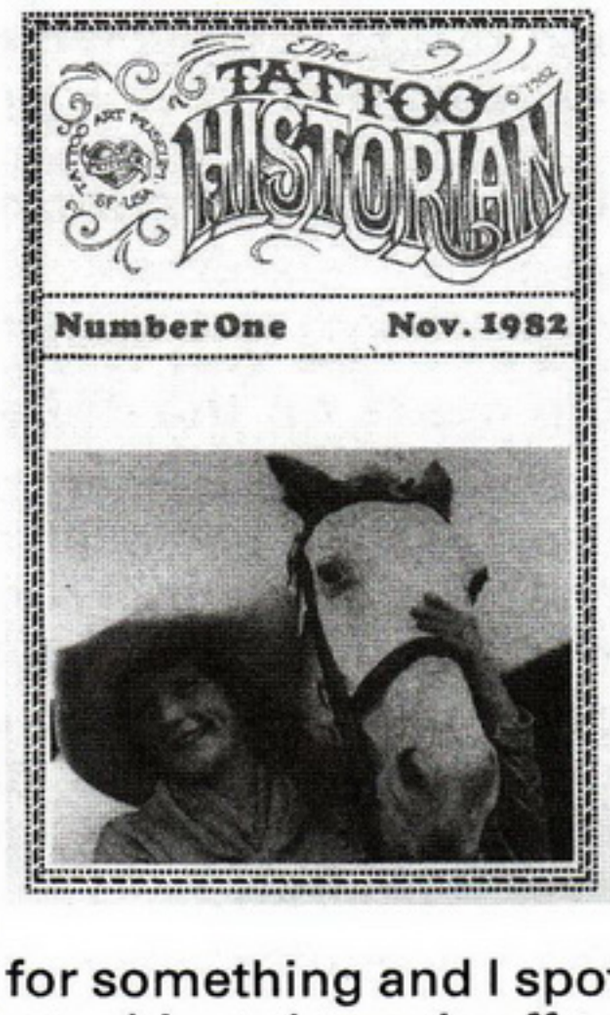
What year would that be?

Well, it had to be in the late, late 60's...

People say that by far you have the biggest collection of tattoo related things in the world...

Probably 50 to 75 percent of that stuff that I have in my collection would not exist today if I hadn't gotten a hold of it – the people that I got it from didn't value it until I showed interest in it.

You're still adding to the collection, photographing store-fronts, and documenting the trade.



I've got a big room, like twenty-two by eighteen that I call the sorting room and then you go from that room into the vault. The heavy-duty stuff, the machines and flash and everything is in there, but as I'm out there monkeying around or digging through stuff looking for something and I spot a photo of a store-front – I just throw it off to the side – I've always tried to departmentalize things – just get all the stuff that's alike, in one spot... then you can take care of it later...

Right. Or somebody else can at least make some sense of it.

I think I got thirty-seven feet of tattoo magazines. I get about ten a month 'cause I'm on most of 'em's mailing list.

Did you start collecting equipment partially because of how difficult it was to get equipment when you first started tattooing?

Well I got involved in collecting tattoo stuff and got my first tattoo on the same day, 'cause I still got that business card from the guy that put my first tattoo on.

I can understand that you'd get a machine if you needed a machine, and you'd get a card when you got tattooed but when did you start accumulating more than you needed – more than you were using?

I remember I had some flash and I was showing it to Bert Grimm and he said 'Oh man, I like that...' and so I gave it to him- I love the chase of getting the stuff. And that was always more important than having it.

But at a certain point you really did start getting after it seriously.

I have written thousands of letters... when sailors would come into the tattoo shop and they had a card from a tattoo shop somewhere, and if they didn't revere that card they'd give it to me and if they did... great... just let me copy the name and the address off of it, and then I'd sit down and write the guy a letter... but then as the collection got bigger and bigger and bigger, that's when you start getting turned on to it. And then you start finding about the thrill of the chase, and the capture. I mean to go over to England and make a deal for the whole Burchette collection – you'd wake up in the middle of the night and think about it,

and realize what you'd done – and you pinch yourself to see if your dreaming or not.

Was some of it a lot of money?

Yeah

It's not like you were picking it all up at ten cents on the dollar.

I never had a retirement plan until I turned sixty five, I wish I'd had been a better businessman, and had a sharper pencil – but maybe I wouldn't be the guy I am today...

Well you certainly wouldn't be... but that's OK. Was that Burchette collection the single biggest collection that you ever acquired ?

Yeah, unequivocally.

The Forbes collection must have been fairly significant, not Burchette sized, but a pretty big collection.

Yeah, it was. Around a hundred and fifty sheets of his flash... his scrapbook, which was all-important – about a dozen machines –

I know you've got a massive business card collection – how many pieces in that? Do you know?

No – there's gotta be at least fifteen-hundred cards, pre-1970. The collection is divided into two parts – pre and post 1970.

How many machines are in the collection?

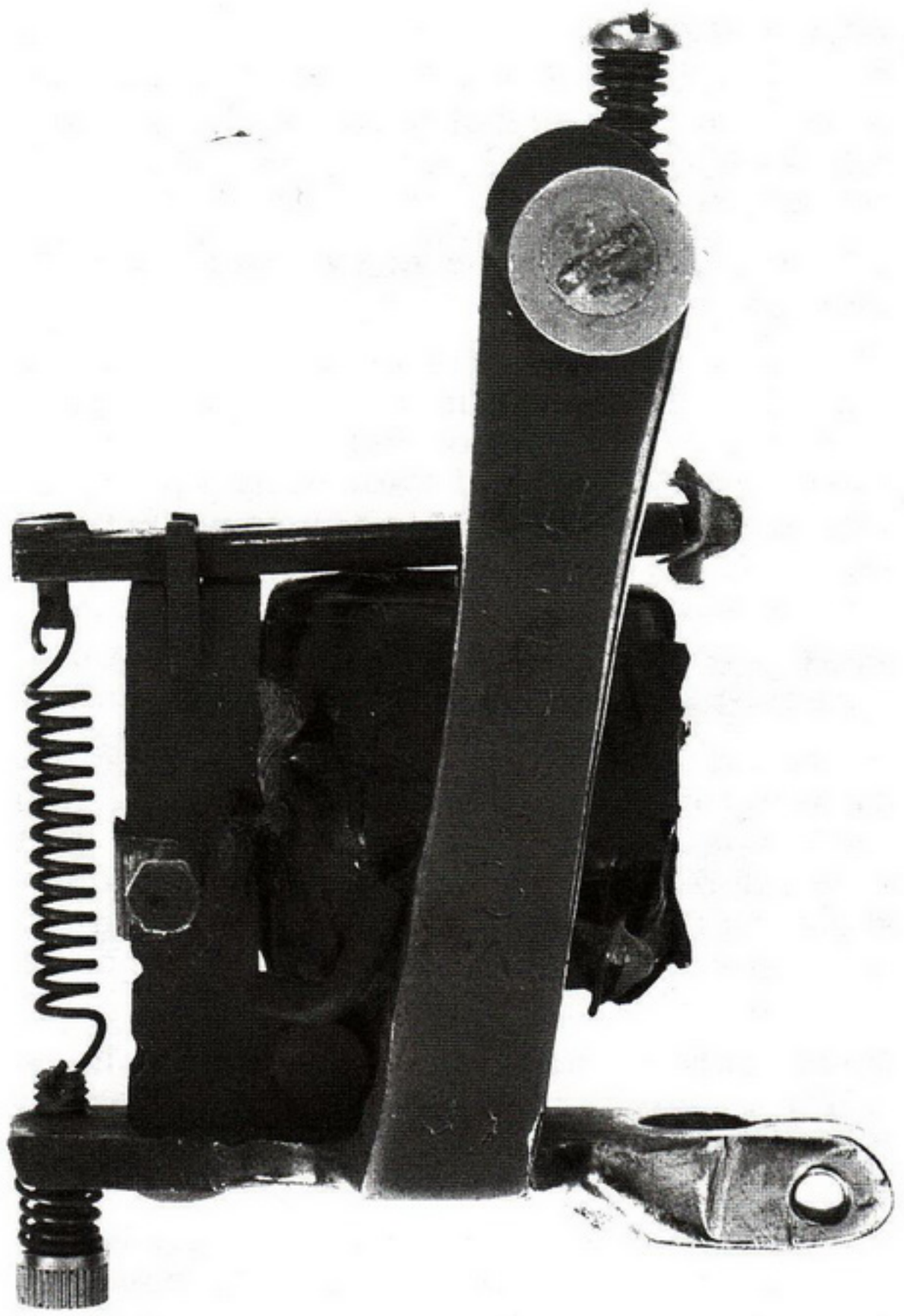
I used to keep a running, written log up until about five hundred and then I got off onto other things – and so I started putting the history of them, with the machine, put on with a rubber band, and a lot of them I did, until the rubber band broke when it got hot and.. I haven't been the greatest curator in the world... but it's there, and it's together. There's over eight hundred machines, but there's a lot of redundancy there. And then hand-drawn flash, the bulk of it's unsigned, some of it's really nice and some of it is like stick-figures – I would say I have seven thousand sheets of hand drawn designs... I could be wrong. The eight hundred machines – I'll stand on that, the business cards I'll stand on that – I don't even collect cards today –

Machines...are you actively collecting?

I do...and I don't run around buying stuff anymore, and I'll tell you why...because every penny I spend buying stuff for that museum, I'm throwing away, because I'm not going to sell it...

You have no intention to move this collection off to a new owner in your lifetime?

No. So I'm not adding to my inventory... but people do send things to me and they know when it gets into my hands it's not going anywhere. I usually don't see anything anymore that makes me breathe hard... and if I miss something I walk off and put it in the tough shit department.



When you were tattooing more full-time would you set machines aside- like you'd use one for awhile, and then put it away and not use it again and then get a new machine and run with it for awhile and then put it away and get another one, or did you have ones that you used a lot?

Down through the years I used a lot of different machines - I scored on six Doc King machines one time, and I screwed 'em up, drilled a hole in the side, mounted a capacitor on 'em-

Well, you intended to use those machines

Oh, I did use those machines, for a long, long time. I built most of my machines, or rebuilt them.

Early on, let's say in the fifties- did you change machines often? Would you keep a machine for a few years, or longer?

I had some favorites that stuck with me for a long time - I had a Long Andy machine, Andy Libarry, it was a bent frame, it didn't have a tube vise on it, so I got a hold of a frame and

I fashioned a tube vise from it- and I used that Long Andy machine for a long time. I changed the tube vise a few times... in 1960 when New York City went down, and it was because of Type B Hepatitis - they had just identified it... sitting there looking at it, changing everything, every time- was like looking at Mount Everest... and saying I'm going to have to climb it. I mean...

The change would have been hard-

It was - but I was smart enough to know it had to change.

So a lot of guys had to change the tube vise on their machines 'cause they weren't set up to quick-change out tubes-

Well, them old conventional-type tube vises were no good - once you started opening and closing them a lot they suffered metal fatigue.

I think a lot of guys don't even know that you've been building machines a long time. They might have a vague recollection of the Eagle Frame, but a lot of young guys don't know that you are a machine builder. Can a guy still buy a machine from you - are you still making and selling machines?

You know...I've got a photograph of a bunch of spider webs that's all over my workbench and everything else, and the sun's shining in...

I usually don't see anything anymore that makes me breathe hard...

and when people ask about machines I always send them that picture and tell them that that's my production department. So...no. I build a machine every once in awhile, and I can walk into a tattoo convention or call somebody on the phone, and just sell it... they figure they'll pay the big bucks and the old bastard will die one of these days and it will be worth a lot of money.

I'm sure that's true, but the thing is, if somebody wanted to buy a machine from you now it's probably not possible unless they are pretty close to you-

Yes.

You're still building-

I still build machines - if I'm into it you can't drag me out of that workshop - but I've only built one machine in the last two years-

What were guys paying for a machine you built?

Two grand - but I just can't build a machine like a factory.

There's also a lot of history and experience that goes into a machine you've built, not to mention the hours-

You know I've had the son-of-a-bitch taken apart and put back together a few hundred times by the time I get it built.

You've got a complete facility - I mean it's not a big production place - but you don't have to send out anything, you can even cast at your place.

Yes-

I don't know of many builders who do their own casting...

Right - but, you know, it is a dirty, functionary job but when you get a wax or something done, at four o'clock in the morning you don't have to be running down dealing with somebody's outfit at eight o'clock, or something, and then have a two week turn-around on it. Yeah - so I can sand cast, lost wax cast, and ceramic cast- all three of them.

When did you first start to do your own casting?

I didn't cast for a long time - I've just started again, I sold all my equipment I think it was eighteen years ago – so I was farming it out, but you just end up having problems.

If you're doing small production runs it's just not cost-effective to get someone else to do it.

Exactly.

Because of the time that you started tattooing, there was never a time that you didn't have to modify machines- but when did you actually first build a machine from nothing?

Back in the mid-sixties - was when I built my first frames.

What prompted you to build the first one?

I got tired of revamping other machines. That was the time that the quick-change tube vise was coming in, so I wanted to go ahead and build my own frames that had a quick-change tube vise on them. The first frames I built were bent frames - I would lay out the machine and then I would get a company that had a big brake to bend 'em. I never did get to the point where I could lay a machine frame out on a flat piece of metal and then take it to somebody and have them bend it in a brake and everything's in the right place.

That's a tricky business.

Yeah, the degree of the bend is hard to calculate. So what I wind up doing is just roughing them out.

What did those early frames look like?

It had a V side plate on it, one part of the 'V' going to the rear spring seat - the other one going to the upright for the contact screw. And then I had an accommodation in the back that had the binding post set up and down.

Through the base plate - vertically. Did you just make those first frames for yourself, or did you sell some?

Oh no, I just made them for myself.

Eventually did you make a cast frame?

I did a circle frame, with 'Lyle Tuttle Tattooing' on the side...

In the circle-

It was raised letters off the circle- you know those Civil War style belt buckles- you stick a tang through it, and then turn it... well I did a belt buckle and I took a piece of wax and I carved that circle out with the raised letters- 'Lyle Tuttle Tattooing' on it - and cast a few belt buckles...and they didn't go that well - so I had put all that goddamn work in it, probably a hundred hours - and I wondered what could I use it for... and I thought, hell... I could use it for the side plate on a tattoo machine. So that's how that machine came about - you know if you make a mistake, still try to land on your feet-

What year would that have been?

That would have been around '73.

Did you have enough of these circle frames to sell some of those?

I sold a few, yeah. But I just built them for myself, and my own amusement.

At that time did you have a little workshop set up at home, or in the shop or something?

I was in that one place for twenty-nine and a half years. I had two floors of an office building...and each floor had seven rooms that was over twelve by twelve - so I had a lot of space. There was always a room that I used for a workshop. Later the workshop took up two rooms. I don't have a milling machine- I got a couple of drill presses, two or three belt sanders, a bench grinder.

Fundamental tools that most anybody could get without spending a fortune.

That's what I teach in my seminars, is how to build your own tattooing equipment with a minimum amount of tools.

Did your collection of machines influence your machine building? I'm sure there were some machines in your collection that you sort of got ideas from-

Oh sure. In fact I think that was one of the basic reasons that I started collecting machines - I collected machines to see what other people had done.

I guess also to start unraveling some of the mysteries about why certain machines ran well, and others didn't.

It wasn't to copy them - I think people should have a signature to what they do - whatever it is.

The machines that you built didn't look like other people's machines. How many different machines do you think you made in the early seventies, before you made that belt buckle circle frame? Two or three different ones?

Yeah, I would say so - but they were one-offs. Dealing with that quick-change tube vise. You know that tattoo machine has only experienced four innovations in over a hundred years, the basic operating system is the same, the four innovations are: the capacitor, as far as I know, Walter Cleveland was the first guy who put a capacitor on a tattoo machine, in the late sixties. The clipcord is another. I have a pre-Second World War post card from the Chicago Tattoo Supply, the place that Bill Moore ran, and he was selling a machine then that had a PL55 plug on it, I think they call them quarter inch mono plugs, now.

Yeah, but that's not a real clipcord, but it certainly is a detachable cord, not a screwed on, or soldered on connector cord - so that was in the early forties?

Yes, and then an elongated hole for moving the contact screw...

An adjustable top binding post.

Yup, because there's only one set rule to a tattoo machine that holds true, and that's the longer the front spring, the slower the machine is going to operate. And the shorter the front spring, the faster it's going to go.

That is the truth, and the fourth one would be...

The quick-change tube vise. Those are the only things that have been done to that machine, in a hundred years-

When do you think the adjustable top binding post was accepted into the trade... in the late sixties?

Oh no, I think it was later than that... almost the late seventies.

The eagle frame that you made was stylistically like no one else's. When did you build it?

It was called the 'Frisco Flyer.' It had 1975 copyright marked on the side of it with my logo signature. The second model came out in '84 - the copyright on it was 1984.

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"THE REAL DEAL"

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So when you made those machines in '75- you must have made enough to sell some...

Yeah, I guess I did sell some.

But even at that, you didn't make a lot of them, for all that it became a pretty famous machine. Then did you recast the same frame in the early '80's?

Well I revamped it, I put a quick-change on it... I fancied it up. The '75 model had a squeeze-type tube vise and it just didn't have the detail in it that the one from '84 has. The '84 model has two screws on the tube vise, which I'm partial to. It's labor intensive to build but... you know a tube vise has to be like a bird dog, it's got to have a soft mouth. If you've got a tube vise that you keep squeezing down all the time, and have to tighten it up harder and harder - those tubes will start to get smaller in diameter-

clipcord on that alignment, too 'cause then there should be a vertical alignment to the clipcord holes - so that clipcord will swing easy. That was another reason that I built my own machines was so that I got what I wanted. One thing I teach in my seminars is how not to waste time in the shop. If your equipment is haywire and things aren't going right, it makes a goddamn long day out of it.

Were the one-offs that you built as elaborate as the "Frisco Flyer" machine?

Some of them were more–so. In '76 I built a silver machine that I called 'Star Struck'. The way it's constructed, everything is stars except the screws. Silver is a nice metal, 'cause it's cheap, the only thing is... well, it's a cardinal sin to drop your tattoo machine... it's like some priest walking out there, and dropping his cross during mass, but that's what the holdback about silver is, you drop a silver machine, well you're going to have to take that apart and straighten it out, it's still no problem, either.

You know they'll say 'I know everything, I'm a tattoo artist.'

Were both versions of that machine cast in the same material?

Yes, they were brass.

It wasn't chrome plated?

I did chrome plate some. Later I started going to silver...

Silver plating?

No... solid silver...

So, all the ones from '75, very low production numbers, they were brass, some chrome plated... then you didn't make another frame 'til '84, when you did the second version of the 'Frisco Flyer'.

Well, I made some one-offs, and that's what I liked to do, I like to design frames. A frame furnishes seven positions; you have to have a tube vise, you have to have a rear spring seat, you gotta have your hole to put your contact screw in, you need another hole or port on the back of the machine to put your insulated binding post, you have your mounting screw hole for the front coil, you need the hole to ground your clipcord, and you need the hole to mount the back coil. If the machine is built, in my estimation, properly... it doesn't conduct any electricity. 'Cause what I do is I always back-drill the machine screw in the rear spring seat... because you have to have that fore and aft alignment on a machine. A proper frame, constructed properly, there's a center line that goes down through that machine fore and aft through the center of the coil holes and so if you've got that alignment going, well, back-drill that screw and then you've got your

So in '76 you built 'Star Struck',

Then I built one, that I'd used wax, a wax rod... it was constructed out of a spider web-

When would that have been? A year later, or so?

Yeah, it was in and around that period.

All in the late '70's.

And then I got sick and tired of building machines. Usually if I've done a run of casting, and I've got six frames there, then I'll say to myself, I'm going to build those six machines together...

Yes, as a set...

And I build the parts, individually as I go along. So then it winds up that I'll push that first machine ahead, or the first two ahead, so the other four, they just go by the wayside, I pick up on them later- or if somebody comes by the shop... I've sold machines that are half-built... you know I'll have four pushed ahead, and I've finished one, and I've got another one almost complete, and somebody comes to the shop and says, 'I want one of your machines,' I'll say well, what's your degree of skill - you know they'll say 'I know everything, I'm a tattoo artist.' So I'll pedal 'em one, half done. I bet you a dollar to a doughnut that I haven't in my whole lifetime built over a hundred machines.

Well you've always been building them for yourself and because you enjoy the

process, but not as a way of making money.

I do two seminars, one is about daily maintenance, fine-tuning, repair and how to make more money in the shop with the time you're allocated. And then the other one I call the joys of building your own tattoo equipment. And it is a joy to build something that you can make a living with.

What do you prefer for coils, height of coil core, diameter, number of wraps?

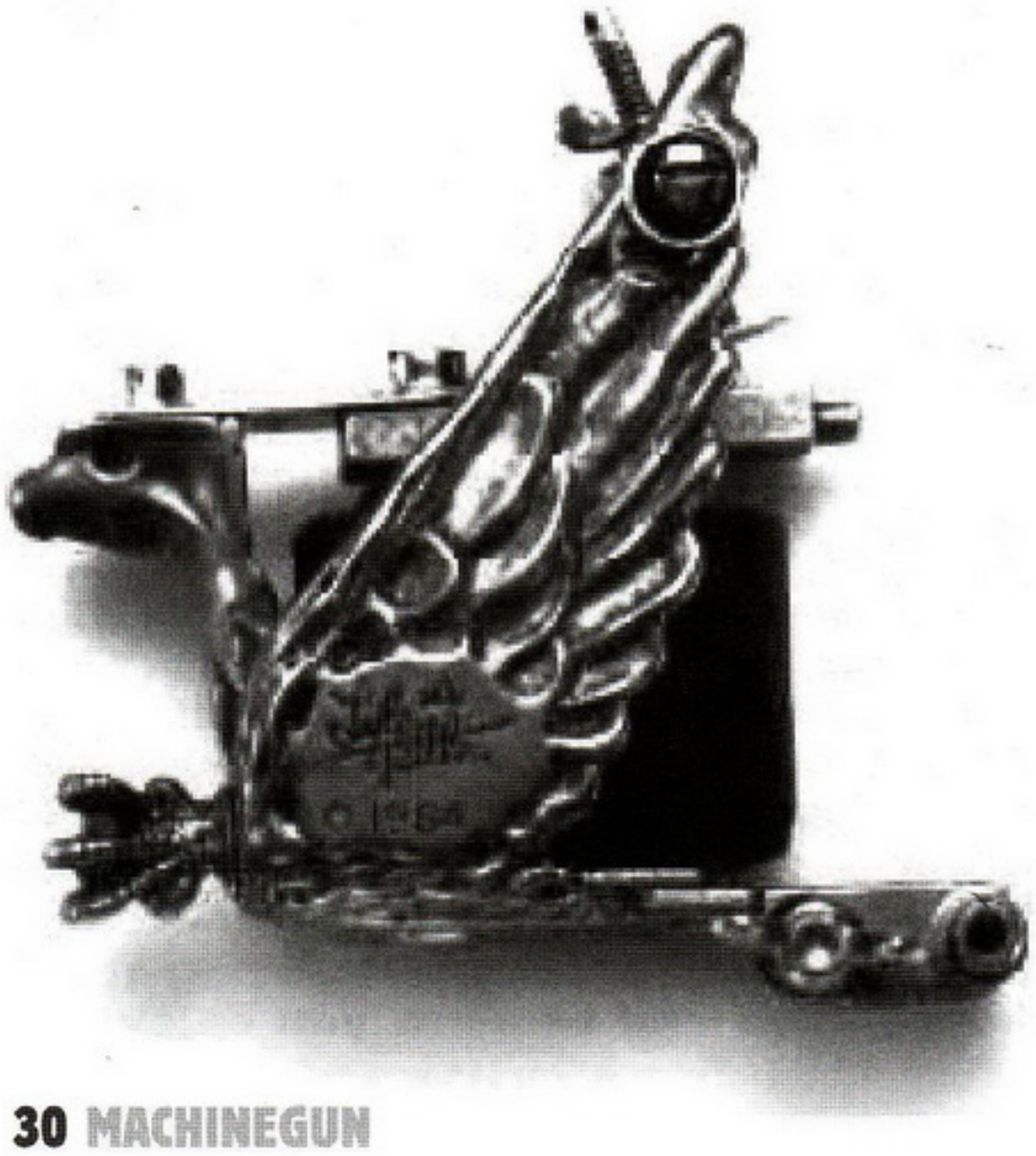
In my seminars I talk about something I call the generic tattoo machine. Hundreds of people have built tattoo machines down through the last hundred years - but they all boil down to one machine... and that's got an inch and a quarter coil, it's got a three-quarter inch diameter coil - It's got either a five-sixteenth, or a three-eighth inch core and all the measurements are common sense... that's thirteen-sixteenths of an inch between the coil mounting screw holes - because you need a little bit of space you can't have the coils jammed together - and if you use a ten wrap coil and put it on a three-eighth inch core, your not going to get it in that generic frame because it needs more space than the thirteen-sixteenths.

Either core diameter was fine with you?

Yeah, and eight or ten wrap coils was fine with me.

Did you find any difference with eight or ten wrap?

Well, the biggest difference is, if you take a three-eighths inch core and put ten wraps on it you're not going to get it in that machine... in that frame. Because then the diameter of the coil is too big. So it's a tradeoff, if you're using a ten wrap coil, you're using a five



-sixteenths core - what you're doing is trading ampere-turns for metal mass, and the metal mass is in the core. There's something I'd like to say about tattoo machines. All of the emphasis that's put on tattoo machines- isn't what's important - the important thing is... whose hand it's in. I walk around conventions and I hear these machines... and I wouldn't want some of the quote-unquote world-class tattoo artists tattooing me, by listening to their machines. I mean goddamn - they've gotta be inflicting pain. I want an outliner to work faster than I can, you know I don't want to be messing around - my line quality goes to hell when I have to slow down and wait for that machine.

I'm in agreement there - I want to be able to outline sort of naturally...kind of the way I draw.

A properly operating dual-coil machine doesn't push the needles into the skin, that son-of-a-bitch *throws* those needles in. That's how I see it. Rotary machines - they push those needles in the skin and that's why you get that indented outline from a rotary machine. To me... that machine is the lesser of the two parts of the process - it's the person's hand that it's in...

It's gotta work with the person and how they tattoo.

I always wind up saying there's truly no wrong way or right way - it's what works for you. If you're working in a shop with somebody who's constantly telling you, you're doing this wrong, you're doing that wrong, work a shift with them - you go in at eight o'clock in the evening and work until two o'clock in the morning, or whatever it is - work beside them and at the end... the guy with the biggest numbers - the most zeros - the guy who made the most money is probably not doing it wrong. But what you're doing maybe wouldn't work for somebody else.

I agree. What machines were you using at the time of all the media coverage you had, in the early '70's?

I was using, at that time, a square-back Jones that I had modified and had chromed and everything and the front coil had a blue background with white stars, and then the back coil had red and white stripes - like an American flag. Then at sometime after that I had those six Doc King machines that was working well. Around then capacitors came in - and some people was saying they wasn't any good and some said they was good - it went back and forth - you know any changes take time.

You run a smaller capacitor on all your machines than a lot of people-

I always try to cut all the snags and snarls

out of my operation - I don't want any special cases. I want all my screws and everything standardized, so I don't use a bunch of different wrenches, and so to simplify things I use a non-polarized capacitor so it doesn't matter which way you hook the clipcord up to your machine.

So what size cap do you end up using?

Ten microfarad, non-polarized. The primary function of a capacitor is to cut maintenance down.

Yeah, just to get rid of that spark.

That's what it's for - but I do have a machine that I use in my seminars that I have four capacitors on, and with switches I can switch capacitance. It's only for demonstration purposes and I can show people the difference of how a machine operates and the effect of capacitors with different microfarad ratings, and there's a *real* difference.

Yes, it can actually change the function of a machine.

You know the higher the microfarad rating is, the less voltage you need, the slower and more methodical it's going to run.

Yes, that's true.

But if you're just looking at cutting your maintenance down,

And that's really the proper use of the capacitor - just to get rid of the spark...

That ten microfarad capacitor is the one.

I agree with you about that. What about contact points, is there a material you like better, or less?

I don't use contact points, anymore...

Well not the points on the spring, but the screw itself. I've seen them made out of silver, I've seen copper, brass - even steel. Do you have any preference there?

If you want to make yourself a contact screw that will last for an eternity - you get a hold of a spark plug and get a hold of a big old hammer and beat the shit out of that spark plug and bust all that porcelain off of it and get that probe. Then you just take and back-drill a six thirty-two or an eight thirty-two screw whatever you want to use. I use eight thirty-two screws on my machines all over, except the contact screw that's a six thirty-two, it's a little smaller than an eight thirty-two, so once you've back-drilled that contact screw you get that electrode that you got out of that spark plug and grind it down 'til it will fit into that hole and that son-of-a-bitch will never wear out. What proved out is that dissimilar metals erode less quickly than similar metals, steel against steel really burns up quickly, and so what I do is go to a jewellery supply company and buy the appropriate size sterling silver rod and use that.

So you've run those silver contact point screws for a long time?

Oh yeah - they'll never erode, but you always have to adjust and maintain your machine. I was always conscious of the pain factor, I wanted somebody to come in, get in my chair and get out of there and I didn't want it to be a horrible experience. You don't have to put a Rembrandt on their arm, as long as it's a pleasant experience. You know you could put just the most classic tattoo that was ever put on... and if it was a bad experience they'll hate that fuckin' tattoo 'til the day they die.

...I think that the Jones tattoo machine frame is just about as good a tattoo machine frame as you can get.

With reason... I believe.

Everything ought to be pleasant.

And I think the shop is a big part of that. I think a lot of guys work in shops they don't like, or they have a shop they don't give a shit about, and they just don't ever consider that a real big part of the experience of getting a tattoo is the shop.

Ninety percent of the people in the tattoo business, they ain't got a fucking clue what the tattoo business is about. A tattoo is more than a picture on the skin...

It said so on the front window of your shop.

Well... the day of the street shop is gone, and that's about the time that I quit. When it changed. I've had guys show me machines that they have built - and so you look at it and you wind up realizing that they ran across some machinist and they got him to do a CNC frame that they designed and then they bought all the parts from some supplier and they bolted it together - and they're standing there flat-footed, lookin' at me, showing me this tattoo machine they built... horse-shit - they bolted one together.

They did assemble it, and they imagined it, I suppose you gotta give them that.

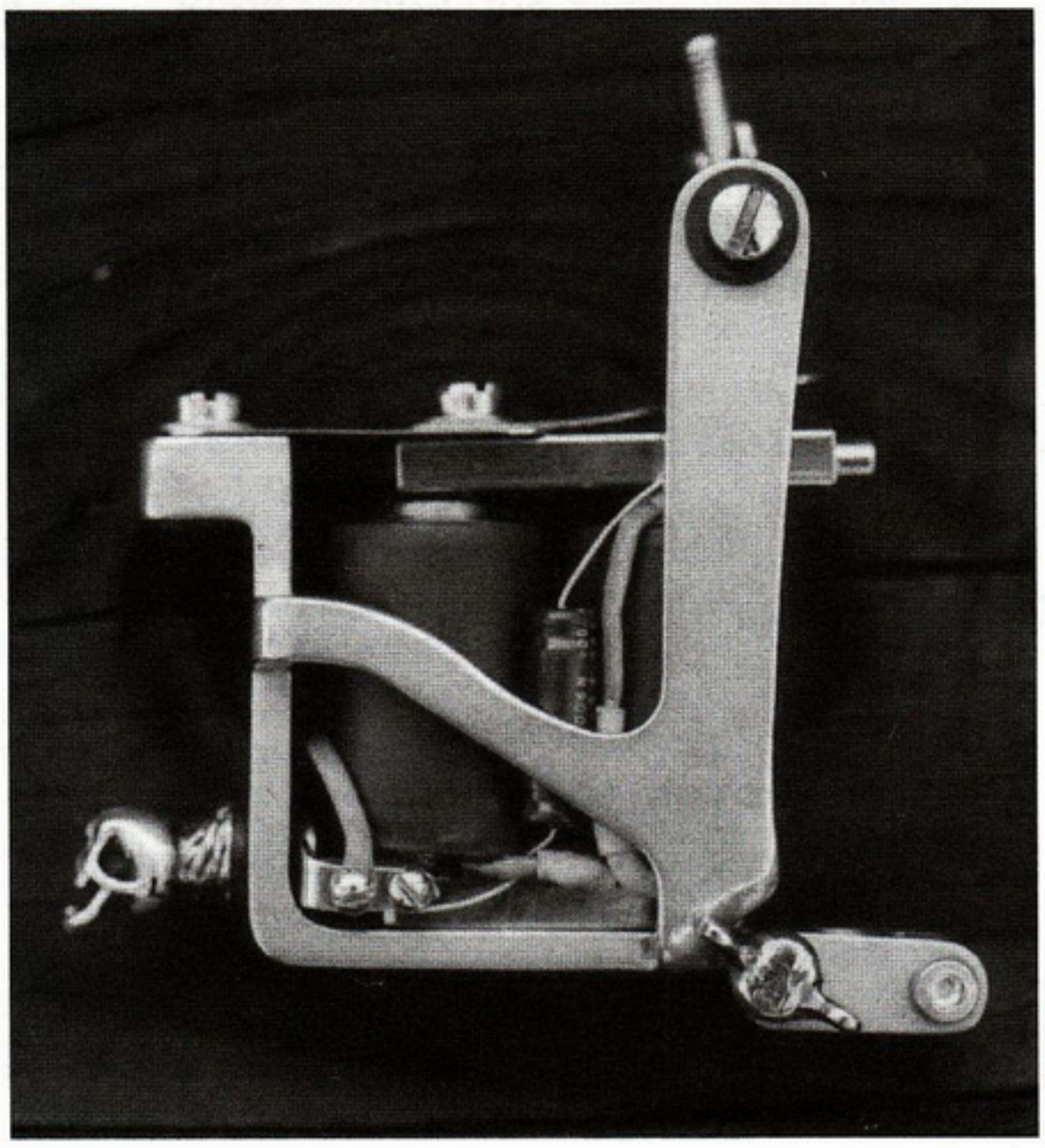
Really the accomplishment is the frame. But everyone starts somewhere, and we all progress at our craft. The first 'Frisco Flyer' that I made, I know that I used hex-stock standoffs for binding posts, and later I was casting my own binding posts. Some of the things I've done with tattoo machines is reworking the existing frame.

You mean taking a frame that someone else made, and working on it?

I think one of the finest and prettiest machines I ever built, was a Jerry Matthews frame, that art nouveau frame.

It's on that poster you put out.

Exactly, and what happened was I had wound



up with a whole bunch of these Matthew's brass frames. Well anyhow I had sold a machine to a guy and he turned around and broke the tube vise. I don't know how he did it...but he came back and bought another machine from me, so I took the one with the broken tube vise and I threw it in the shit can and I said "That's no good for nothing"- well, the minute he left I picked it out of there, and started working on it. I fabricated out of ruby bronze a nice wrap-around tube vise, where the screw is in back instead of in front, and silver soldered the thing in. Then I threw it in the tumbler. Now, who ever had cast it, the brass was dirty and it had a lot of porosity in it, but you couldn't really see it in the rough. And I left it in the tumbler too long and I was really using some harsh stuff in the tumbler, and it wound up irrigating all that porosity and up by the rear spring seat there was a big glob that was about an eighth of an inch deep, so I wound up engraving a star over that to kill that porosity, and then I went through and did some stars over some other pieces, small ones, and then I've got some star stamps that I made and I stamped some stars on it, and you know, there's an art in reworking things.

It's like doing cover-ups, kind of... you've got a starting point, and a lot of times that blank paper is the hardest thing to overcome.

What got me with this deal was... the tighter you can make two parts when you silver solder, the stronger it's going to be and I had that new tube vise fitted so good, to the frame, but all of a sudden I ended up with a gap in there, I don't know how it happened, but anyhow I wound up putting some thin silver sheet in there and soldered it in and when I polished it, it had this rainbow look in the metal. I'm usually a purist, and if I was going to make something out of stainless steel I'd make it out of stainless steel but on that machine I got into this deal of mixed metals, silver and brass together. I even made the wing nut out of silver and brass, the ears on it was silver and then I used a brass base on the wing nut. So there's a lot of little nuances you can do on a machine. And finish is everything.

How many hours do you think you worked on that frame?

I have no idea.

But it would be days.

No - it would be *weeks.*

I don't think many people would spend that kind of time working on anything.

To me it's entertainment.

The doing of it, is the thing,

Well, I always have tried to outfit my workshops nicely. You know, I think that the Jones tattoo machine frame is just about as good a tattoo machine frame as you can get.

Yes- very logical, straight forward-

If you modify it in a proper manner, and I built some off that National Deluxe frame, and I made that two-piece, spring-loaded tube vise that I do.

You mentioned that tube vise with the two screws - how does it work?

It's two pieces - one piece is off completely, one screw goes in front of the hole for the tube stem, and one in back of it. So what happens is, the front screw hole I back-drill it so a small spring can go over the screw, inside, so that keeps that tube vise pushed apart, so then on the back screw I use a wing nut soldered to it. You take the front screw and you just tighten it finger tight 'til you can just put your tube

in and out of there and then with about one quarter of a turn on that back wing nut screw and boom - it's tight.

What about springs? Because you're of a mind to standardize things and keep things universal, what thickness of spring stock do you use, and what are you using for spring stock?

I use twenty thousandths, half inch, blue spring stock.

Front and back?

Yes. The best spring stock I ever used in my life was some that had come from a German company that build gauges, temperature gauges, pressure gauges... and I don't know what they did to that spring stock, but goddamn it was melodious, smooth-running spring.

Twenty thou'?

Well, it was metric, but it was close to twenty thousandths. I've experimented with springs and spring thicknesses. Anything that's under seventeen thousandths... you can throw it away... anything over twenty-two thousandths... throw it away. Seventeen is even too light.

It depends on the frame geometry, too. There has to be some consideration there, but I agree with you. I know when the springs are too thin, what happens is the machine starts to act erratically, you can't really see it, but you can tell there's something not really right with the machine.

It doesn't run with any authority.

There's not enough substance or resistance there... so once again I agree with you. When you bend a spring, do you kind of arc it, or do you put a fold in it?

I bend it against my thumb. When I put tension in a rear spring, I take and loosen up the rear spring seat screw and I turn the spring around backwards and the armature bar, and the front spring, the whole business around backwards out of the back of the machine, and put my thumb between the two screws, then I got the armature bar sort of in the palm of my hand and then that's where I rock that tension in. But I bend against my thumb because I don't want any possibility of putting a kink in that spring.

So you're more arcing that spring.

Yeah, it's putting tension in the overall run of the spring. There's three different spring seats; there's negative, positive and then a square spring seat. So the negative is where the back end is higher than the front end, and the positive is the other way with the back end lower. There is a school of thought out there, which I never went for, that says having that lower at the back, you don't have to put tension in your spring - or that much tension.

If you have a positive set up there.

Yeah, with the positive. But with the negative, then you gotta put a lot in there - and I like the negative because I want to put that tension in the spring, and then I've got ways when I'm adjusting the machine that I neutralize and balance that tension in the run of the spring.

Yeah that spring is like a leaf spring on a car.

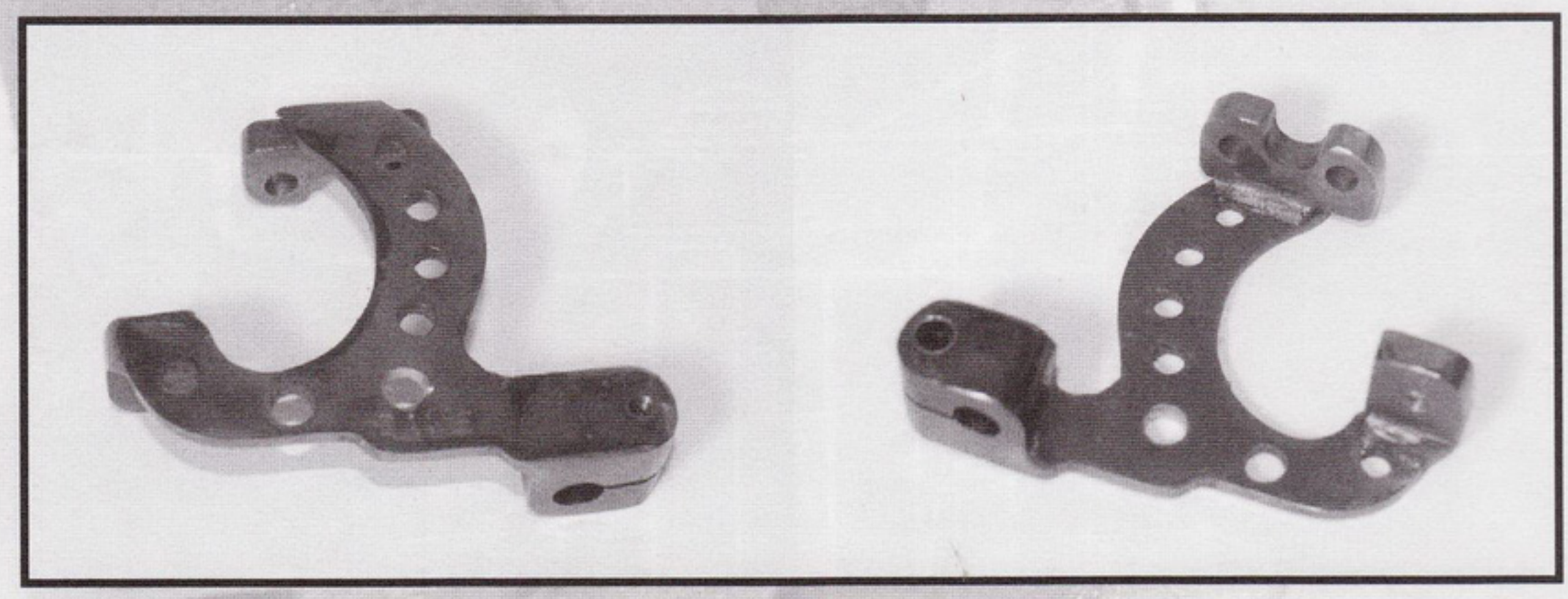
Anybody that even thinks about building a tattoo machine using coil springs, whether they're pull, or compression, well you just can't do it unless you use some kind of hinging device. I've built quite a few experimental machines. When women came into the business, or anybody coming into the business, they always say when they pick up that machine for the first time they say, well it's pretty heavy...well, soon they'll learn that little bit of weight is nice. But when women first started getting into the tattoo business I went ahead and made some machines that were lightweight, and they worked decent too, except through the day they were harder work than using a regular weight machine... because you got to hold that machine down to the skin, while the other way the machine sort of holds itself right in. If I'm into working in my shop - I got things that I want to do... to accomplish in there and not experiment. I just take it for granted that in a hundred years of that machine being operated, and with the hundreds of people that's built machines collectively... they knew what the hell they was doing. And what we've wound up with today is totally adequate, it does not need to be changed. So build nice frames and try and stay on the same line that everybody else did. To me, it should look like surgical equipment, to put confidence into the customer. If I went into a dentist's office and the dentist grabbed this goddamn apparatus and it's a fucking horseshoe with the birdshit welding all over it and he was going to drill in my mouth with it?? No. And I think the same consideration should be given to the tattoo customer. UG was in. For ten or fifteen years UG was in, but UG is going out now. There's some accomplished frame makers out there right now that's into some different techniques. The frame of the machine is really the thing - if you furnish those seven positions - the discipline is, the seven positions have to be in the right spot... then you can do anything in between. **MGM**

THE BUILD BY BRAD DAWE

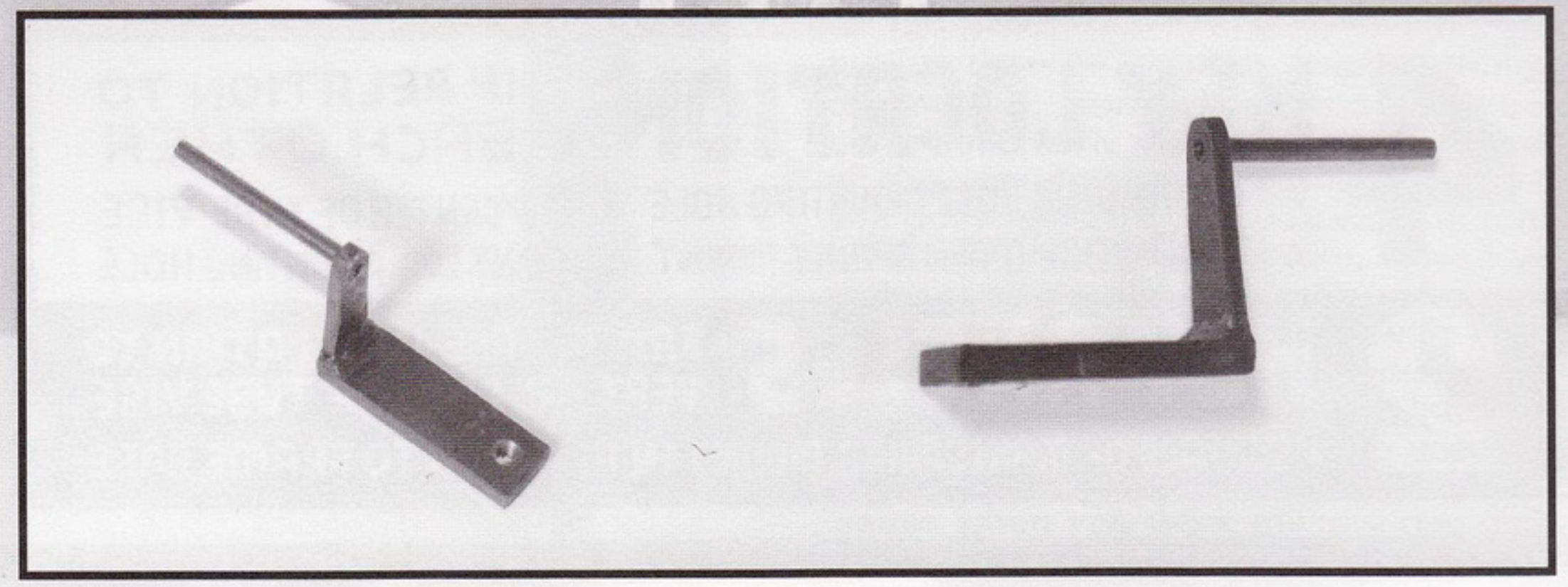
When I got my copy of MGM issue #7, and saw the drawing for the force machine on page 26-27, I was so impressed with the idea I had to make one. I needed to know what this thing would do.

The first thing I noticed about the original design was there was no place for the clip cord. I figured a side wheeler mount would be the best setup.

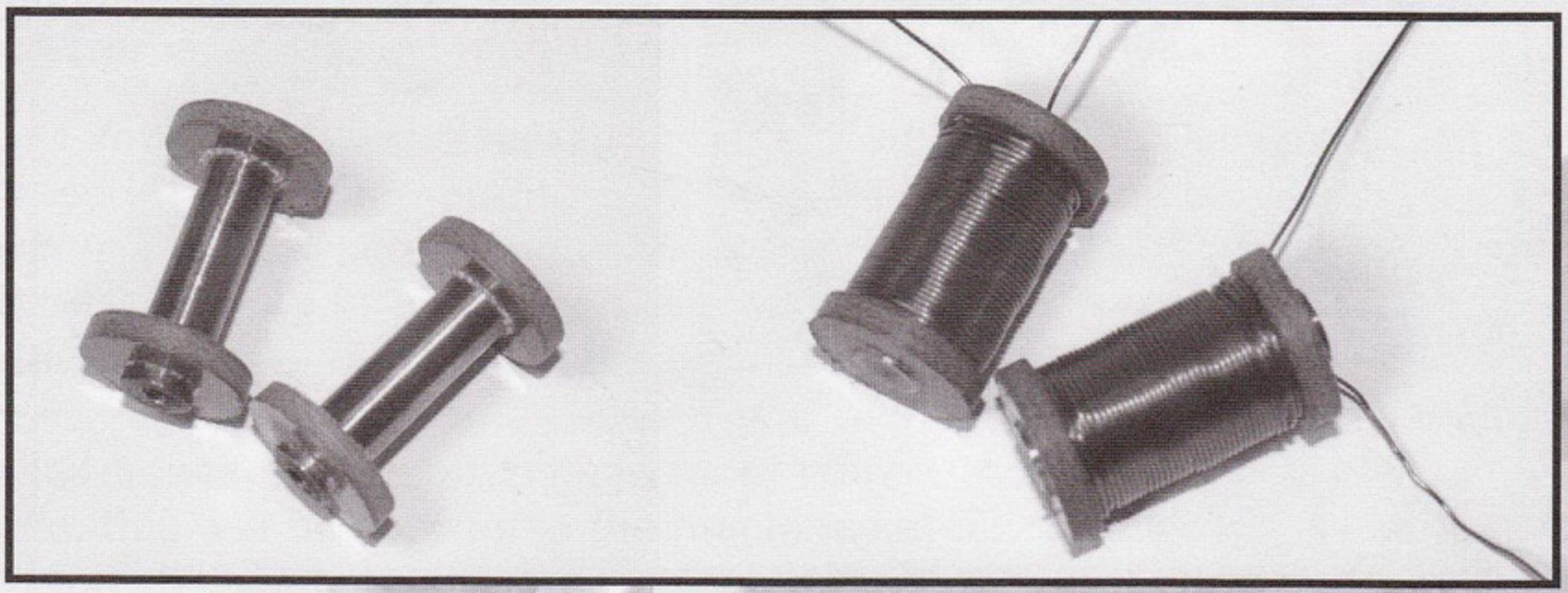
First thing on the agenda, make frame. Obviously this isn't your typical frame setup, so I had to take my time and really pay attention to the geometry. I decided to change the frame's shape (just a little), for no other reason than just to put my own style into it. I also changed the placement of the spring shelf, just to make the frame a little more compact.



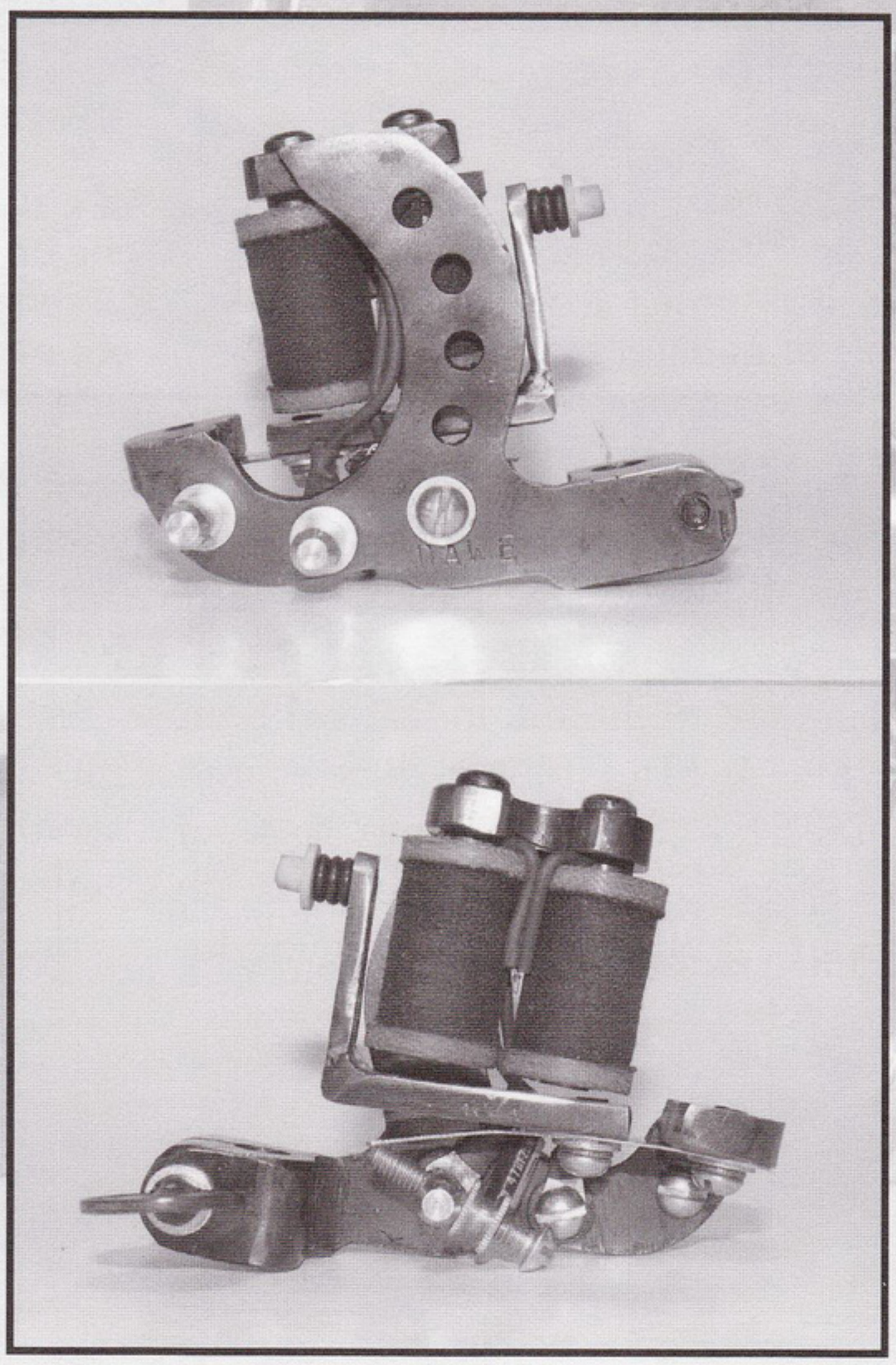
Once the frame was cut, welded, drilled and tapped, I had to move on to the abar. Normally the abar is one of the last things I make but because this one is a little out of the ordinary I made it early in the build just to get an idea of how it was going to be seated.

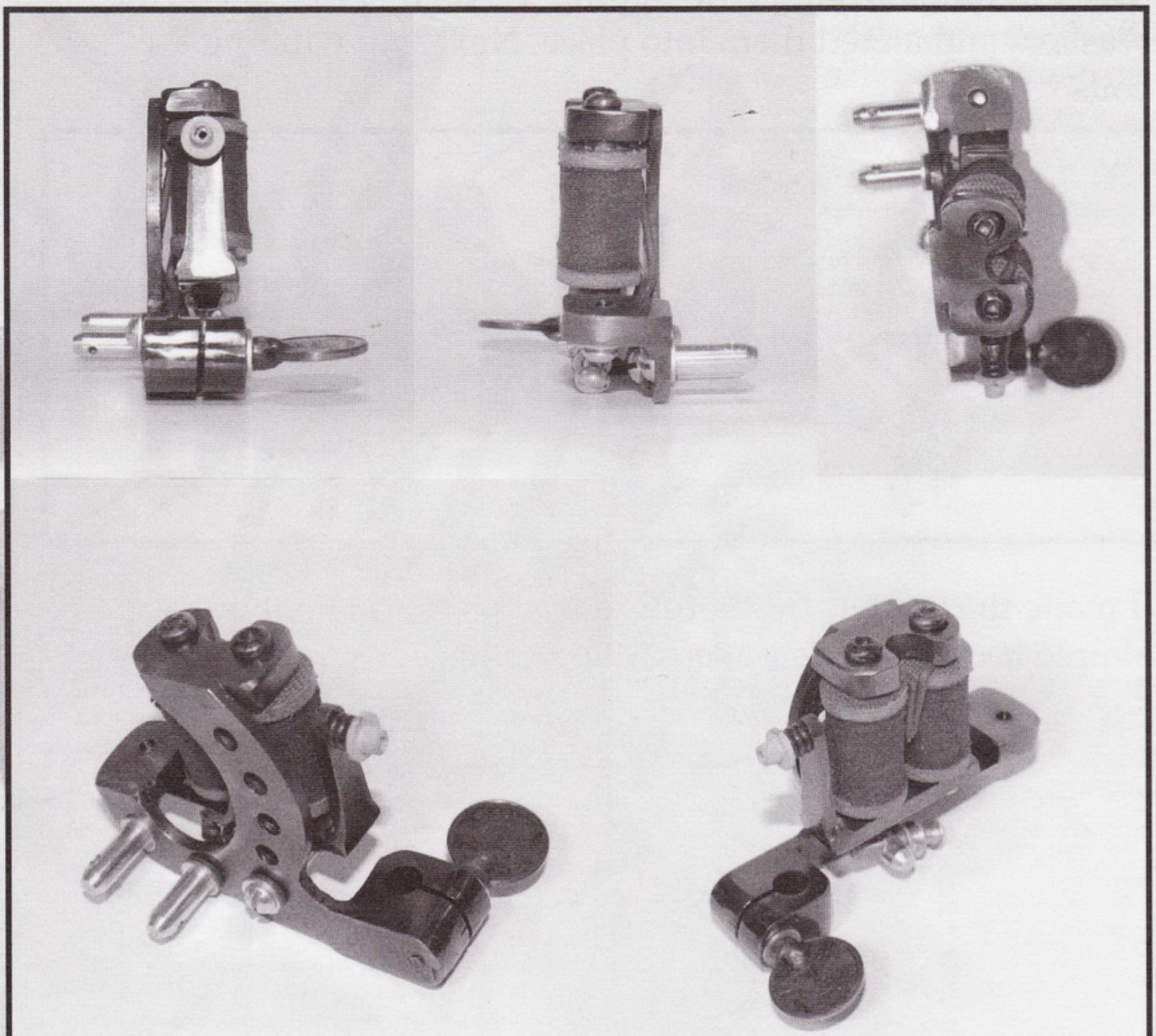


After cutting, drilling and tapping the cores, I made the coil washers and afixed them into place. Next step winding the coils.



I made the binders out of round brass rod and kept them pretty simple because of clearances, little wiring, cut some springs and she's ready to test.





HOW'S SHE RUN?

The first run was very surprising. It ran very steady, but just a bit too hard. The biggest difference was the action of the abar. It not only moves up and down but also slightly front to back. To me this might be a benefit to put ink in faster. I'm no expert at japanese hand tattooing but it looks to be a similar movement.

I ran the machine for a constant 20 min. to see if it would heat up or develop a spike in power. She passed with flying colors. It runs solid at about 4.2 vlts. The following are the #'s on the ems 200..

Speed=69hz

Ft=0

duty=58%

My first try at it was on a small b&g piece. Because the down force in this set up is weaker than a normal machine, I thought this would be the best style to work in. It actually worked pretty good. It took a little longer to work the ink in and about half way through the piece I swapped machines, just to see how it would heal. 2 weeks later both sides look the same.

I decided to try the machine on a small color piece. To my amazement it worked very good. Seemed to have very low trauma and put ink in the skin at a fairly good pace. I did have to use a little more volts with the color than I did with the b&g.

My final verdict would be...

This machine will not be in my daily rotation but it sure shows how important down force is to putting ink in at an effective pace. The magnetic force from the coils is important for a machine to run properly. I did a total of 6 pieces with this machine and was pretty surprised at how well it did overall. The biggest downfall is, when the machine is stopped, the needles hang out of the tube. Just need to be a little more careful when placing the machine down.

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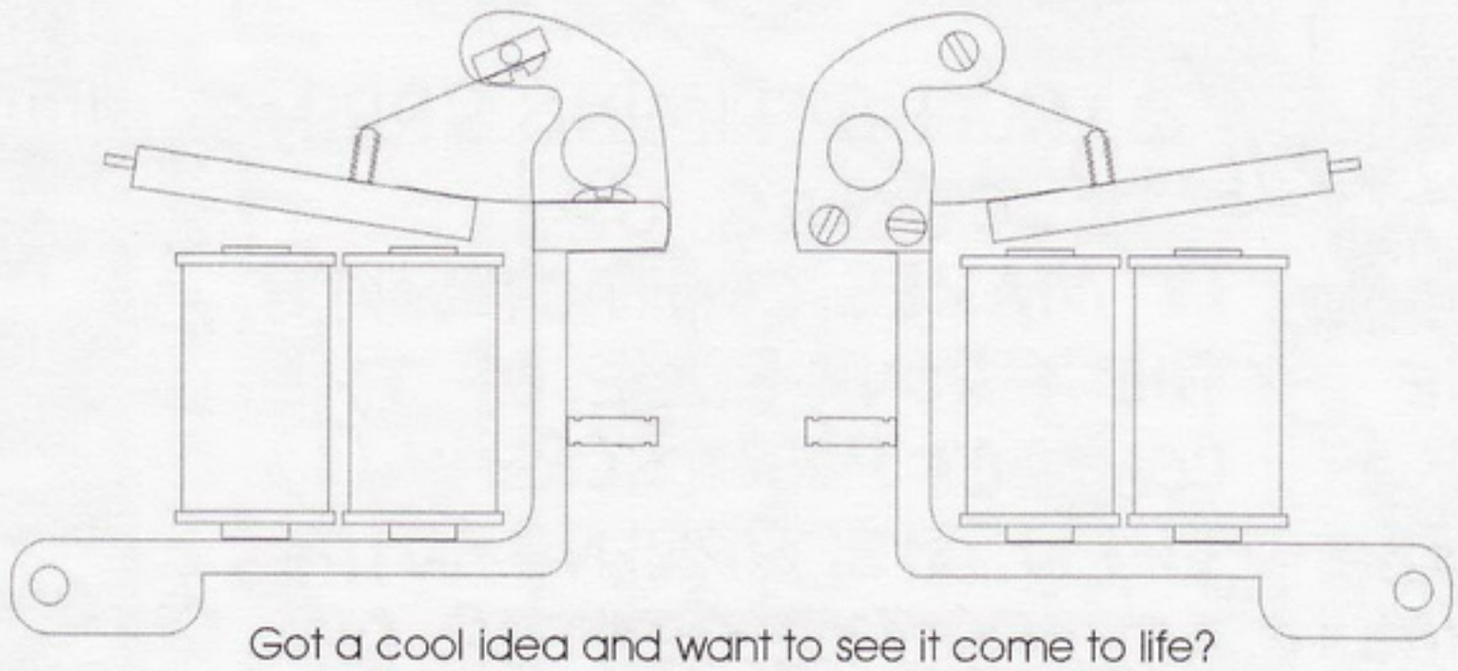
Next time on

"THE BUILD"



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POINT OF CONTACT

SIZE OF GAP IS ESTABLISHED BY THE MACHINE'S MECHANICAL SYSTEM WHICH INTERRUPTS THE ELECTRICAL SYSTEM WHICH CONTROLS THE MAGNETIC SYSTEM

CONTACT POINT SCREW

TIMING SPRING SURFACE

FOLLOW THROUGH • POINT GAP SIZE

SPARK SUPPRESSION

THE CONTACT POINT SCREW SHOULD MAKE CONTACT WITH THE TIMING SPRING AT IT'S NARROWEST POINT. A SPRING ACTS SOFTER AT IT'S NARROWEST POINT MAKING THE OPENING AND CLOSING OF THE POINTS CLEANER

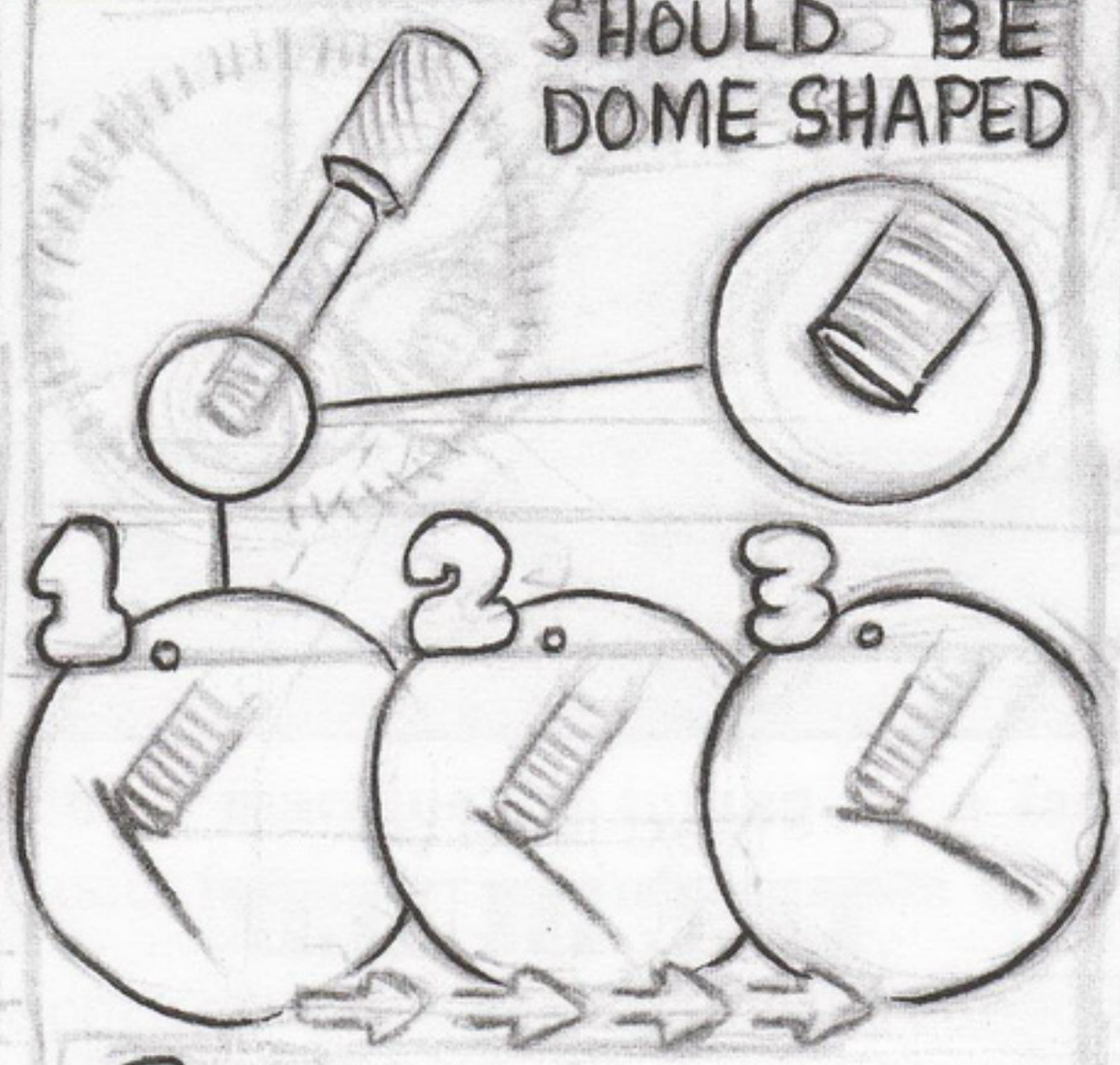
MATERIAL MUST BE ELECTRICALLY CONDUCTIVE AND ABLE TO WITHSTAND HEAT AND THE MECHANICAL STRESS OF THE MACHINE FORCE

- SOFT MATERIAL- SILVER AND COPPER WORK WELL...
- SILICONE BRONZE WORKS WELL...

SMALLER SIZE IS BETTER

6 SCREW

TIP OF CONTACT POINT SCREW SHOULD BE DOME SHAPED



AS THE TIMING SPRING COMES UP... IT MAKES CONTACT WITH THE FRONT EDGE OF THE CONTACT POINT SCREW (1)... THEN THE SPRING WIPES ACROSS THE CENTER OF THE SCREW (2)... FINALLY UNDER COMPRESSION THE SPRING SLIDES ACROSS THE BACK EDGE OF THE CONTACT POINT SCREW. THIS PROCESS IS CALLED FOLLOW THROUGH.

THE OPENING AND CLOSING OF THE CONTACT POINTS CREATES A SPARK. IF IT IS NOT SUPPRESSED, THE SPARK CAUSES TWO PROBLEMS... HEAT AND EXTENDED DUTY CYCLE.

A CONDENSER, OR CAPACITOR, IS USED TO SUPPRESS THE SPARK ON A TATTOO MACHINE. PROPER CHOICE OF CAPACITOR IS IMPORTANT TO MACHINE FUNCTION

RUN MACHINE WITH NO CAPACITOR, THE SPEED READING WILL BE BASED ON THE MACHINE'S MECHANICAL SYSTEM. USE TRIAL AND ERROR TO FIND A CAPACITOR THAT WILL NOT AFFECT MACHINE SPEED.

MACHINEGUN Magazine

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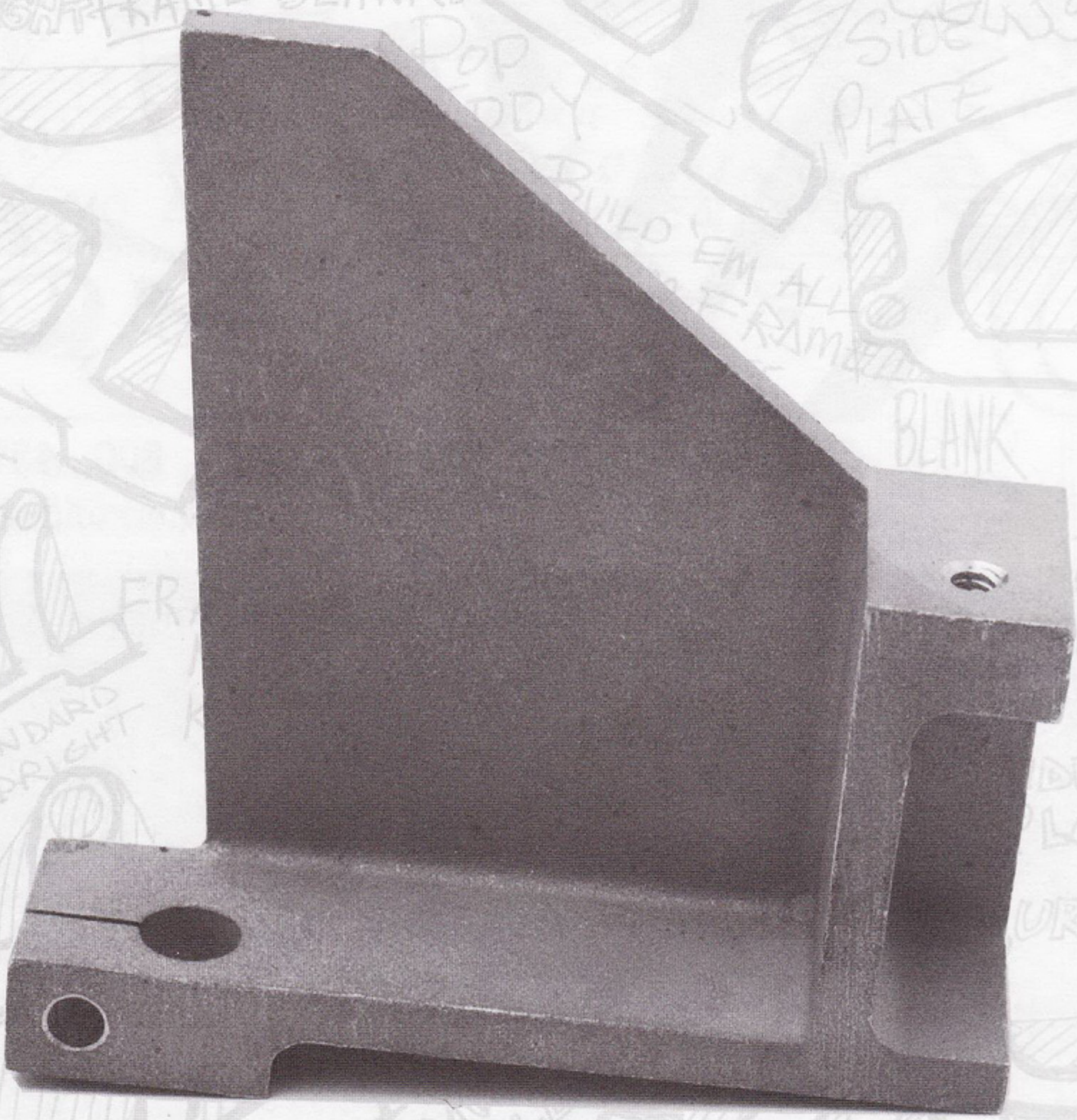

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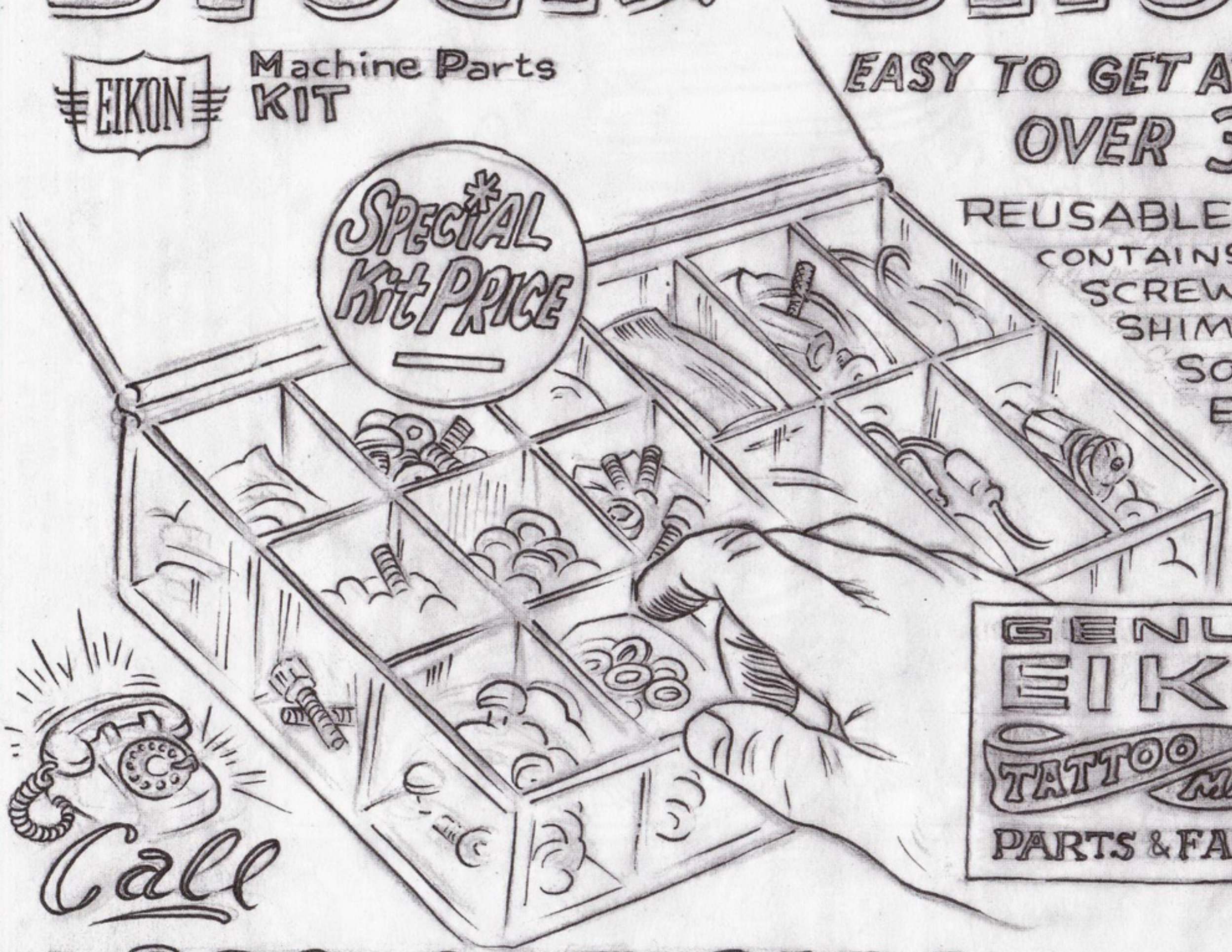

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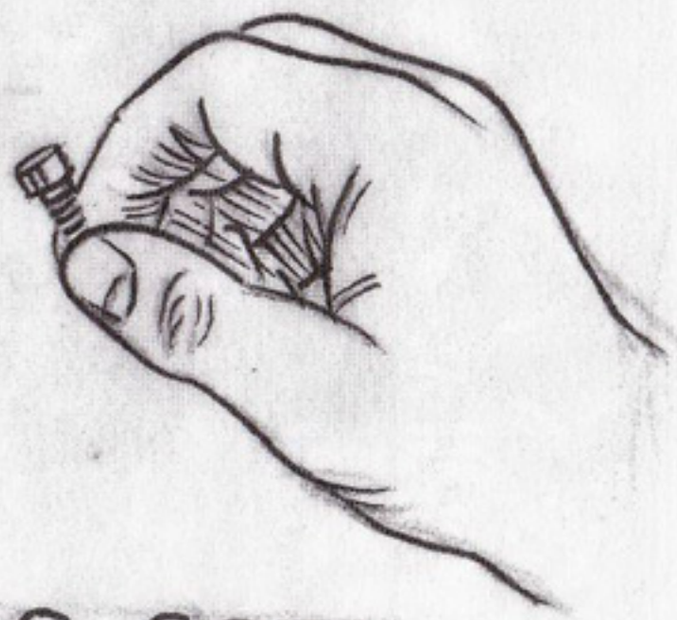

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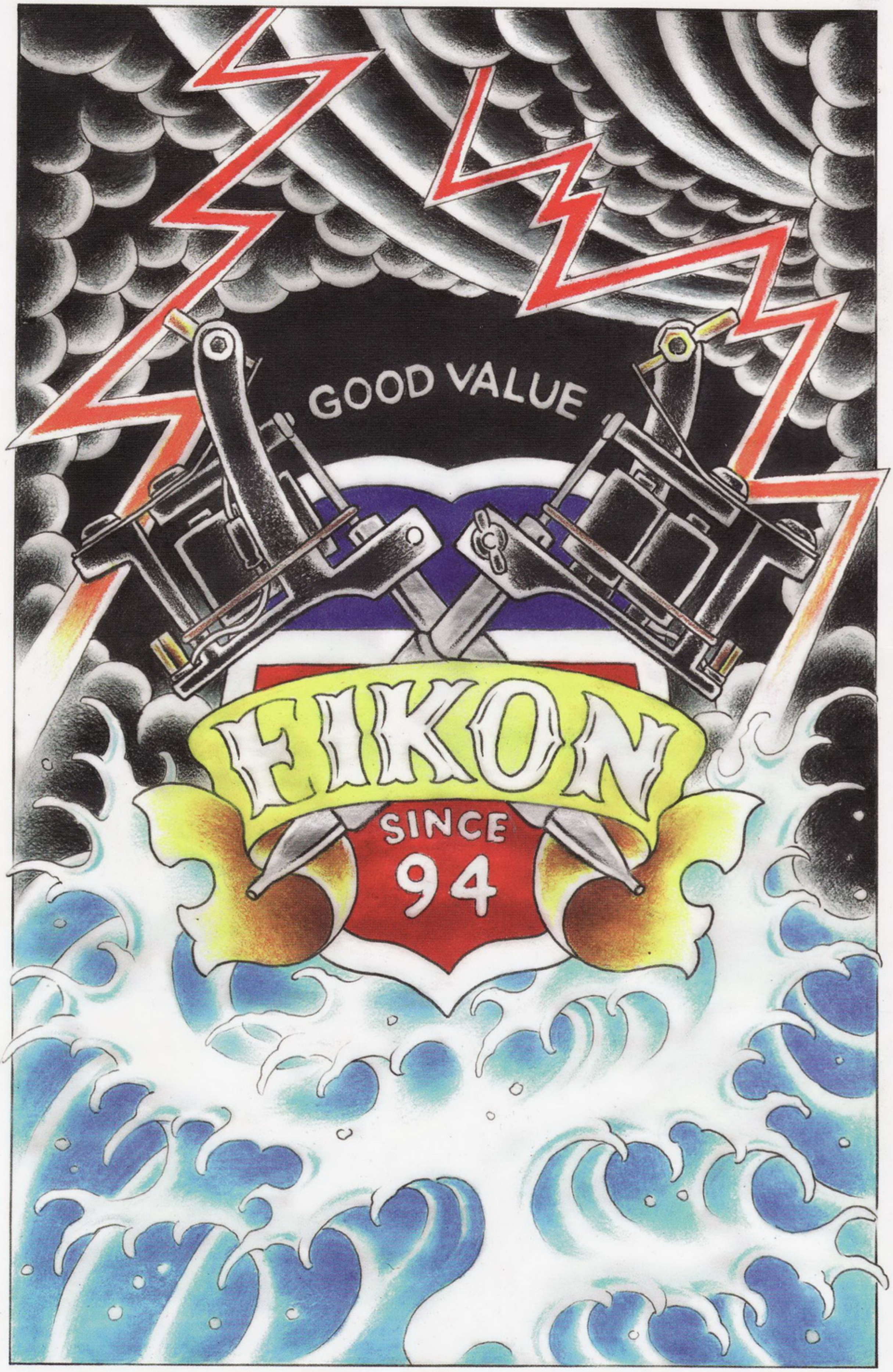
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